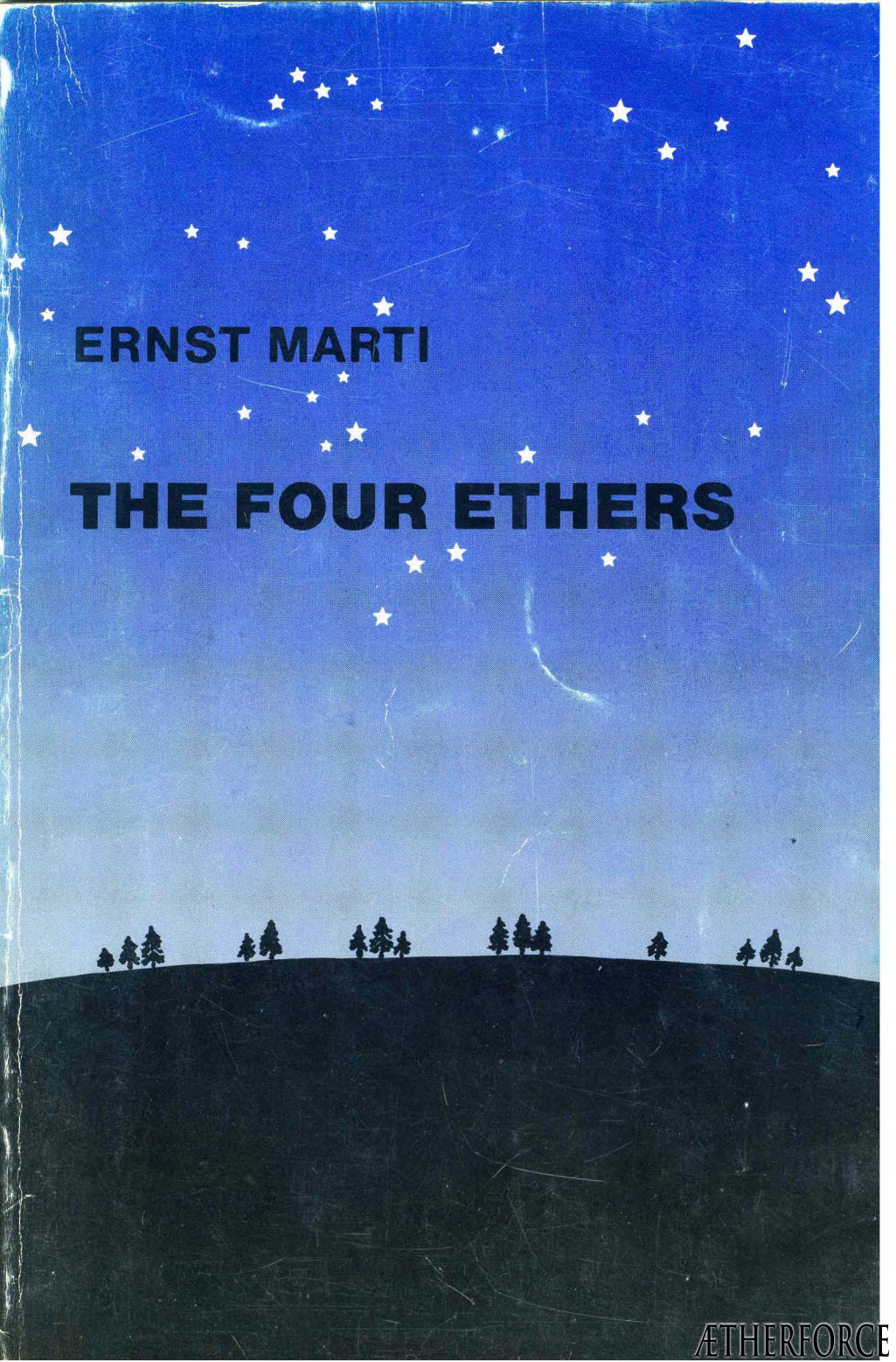


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The book cover features a deep blue background speckled with numerous white stars of varying sizes, creating a night sky effect. At the bottom, a dark, silhouetted horizon line represents a hill, with several small, dark evergreen trees scattered across its crest. The text is centered in the upper half of the cover.

ERNST MARTI

THE FOUR ETHERS

ERNST MARTI

THE FOUR ETHERS

Contributions to Rudolf Steiner's Science of
the Ethers

Elements—Ethers—Formative Forces

Translated

by

Eva Lauterbach and James Langbecker

With a Foreword by Rolf Hummel

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ÆTHERFORCE

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FOREWORD

Physicists distinguish four fundamental forces: strong (nuclear) forces, electromagnetic forces, weak interactions, and gravitational forces. These forces seem to describe the entire wealth of physical phenomena which surround us, from the movements of the stars down to the orbiting electrons of an atom. The laws of physics, however, cannot explain the *form* or shape of bodies except for very simple cases. An example of the possible application of the laws of physics is the formation of minerals or crystals. They may be thought to be created by adding atom to atom in an ever repetitive manner and by obeying the laws of electrostatic attraction or repulsion. If we divide an already existing crystal into small parts, we observe that its crystal structure remains identical down to a submicroscopic unit cell. (Other bodies, such as rocks, might have been shaped by random events, for example by collisions with other rocks in a creek or by water erosion.)

In contrast to this, the shape of a snail house or the horn of a ram cannot be explained with the laws of physics because the word "form" in the above mentioned definition is not contained in the terminology of physics. Physical forces act only from one point into the surrounding neighborhood, and therefore cannot create an all-encompassing form. Thus, we have to search for alternative ways to explain the shape of many life-created bodies. These forces have been found to be the formative forces. The present book deals with this phenomenon.

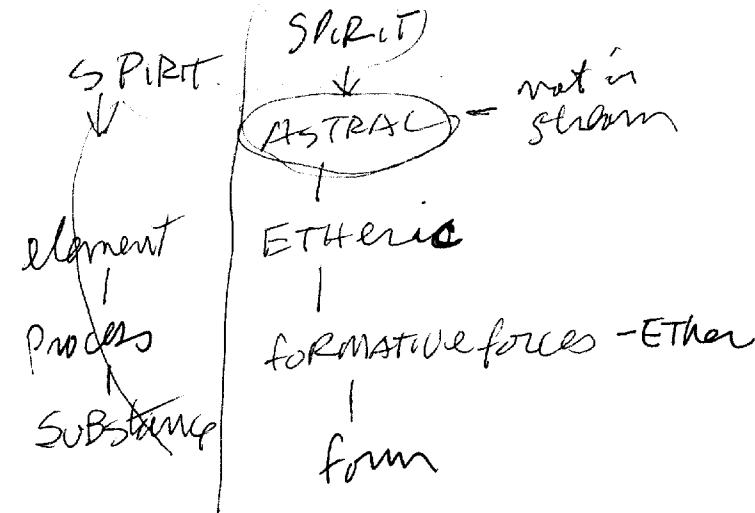
The world of antiquity knew four elements: fire, air, water, and earth. In addition, Rudolf Steiner discovered the four ethers: warmth, light, sound, and life, and stated that elements and ethers are polarities. (We note in passing that the forces in physics, the ethers, as well as the elements, all appear in groups of four.)

Marti, who is well-educated in the teachings of Steiner, points out in the present book that the astral forces stimulate the ethers and thus create out of them the formative forces. He also points out

that when the spiritual forces penetrate into the elements, they create the substance. The cooperation of elements and ethers seems to cause the manifoldness of forms and shapes in everyday life.

This book is fascinating to read and a true eye-opener for those who desire a deeper understanding of the living aspects of our environment. I have used this book with great success as a basis for my teachings during two summer courses at the Rudolf Steiner Institute (in Natick, Mass.). The translation of this book into the English language has long been overdue.

Rolf E. Hummel, Ph.D.
Professor, University of Florida



TRANSLATOR'S FOREWORD

Readers versed in more than one language will be aware of the different ways in which meanings in one language sometimes need to be expressed in another. Words stand for meanings, they are not the meanings themselves. The same word in one context, for example, may have a different meaning in another context. Thus, depending on what meaning we wish to convey, we choose our words and hope that the reader or listener will perceive what we wish to express. In trying to grasp meaning in one language and transpose it into another, we sometimes have to translate freely to allow for the peculiarities and differences of the two languages involved.

In the translation at hand, an effort has been made to translate as closely to the German meaning as possible. In those cases where a question was anticipated, the German word was included in parenthesis, or a translator's note added. This was also done where certain references, if left unexplained, might lead to misunderstandings or misinterpretations. Thus, we hope to have produced a translation precise and concise enough to allow the reader to gain a clear perception of the authors' meaning.

Eva Lauterbach

INTRODUCTION

The following two essays were published in *Beitraege zu einer Erweiterung der Heilkunst nach geisteswissenschaftlichen Erkenntnissen* [Contributions to an Enhancement of the Art of Healing Based on Insights Gained by Spiritual Science], (Stuttgart, 13th and 19th year, 1960 and 1966 respectively). Because of the continued demand for these essays, they are here reprinted in an expanded form. A part of a new article on the etheric has been added. These three essays now comprise a comprehensive portrayal of the four ethers based on the indications provided by Rudolf Steiner. They are concerned with a fundamental question of the knowledge of nature and the world as seen from the anthroposophical point of view—a question posed in a particular way by Guenther Wachsmuth in his book: *Die aetherischen Bildekraefte in Kosmos, Erde und Mensch* [The Etheric Formative Forces in Cosmos, Earth, and Man] published in 1924.¹ This book seemed to have solved the problem by depicting the ethers as formative forces. Actually, however, the question of whether the ethers and formative forces are indeed one and the same was not even investigated. Wachsmuth's concept of the ethers as formative forces thus became the basis for all anthroposophic work concerning the knowledge of nature and man from the time of Rudolf Steiner's death (1925) until today.

Rudolf Steiner called the essence of life in plant, animal, and man "etheric" or "life body," and presented it as such. Later, he

1. Guenther Wachsmuth, *Die aetherischen Bildekraefte in Kosmos, Erde und Mensch: Ein Weg zur Erforschung des Lebendigen*, vol. 1, 2d ed. (Dornach, Switzerland: Philosophisch-anthroposophischer Verlag am Goetheanum, 1926).

Engl.: Guenther Wachsmuth, *The Etheric Formative Forces in Cosmos, Earth and Man*, trans. by Olin D. Wannamaker. New York.

Guenther Wachsmuth, *Die aetherische Welt in Wissenschaft, Kunst und Religion: Vom Weg des Menschen zur Beherrschung der Bildekraefte* [The Etheric World in Science, Art, and Religion: Man's Attempt to Master the Formative Forces], vol. 2 (Dornach, Switzerland: Philosophisch-anthroposophischer Verlag am Goetheanum, 1927).

added the term "body of formative forces." These three terms pertain to the same object; however, each refers to a different content and context, much as one might say about a house: It is built of stone or wood, has this or that kind of rooms, is an office building or a home. It is the same building, first considered in terms of its materials, then in terms of its layout, and lastly in terms of its purpose. Likewise, the expression "etheric body" refers more to the substance of the life body, "life body" to the life-giving functions, and "body of formative forces" more to the shape or form-giving forces. With each of these terms the object "etheric body" is considered in a different relationship with the other world phenomena.

Heretofore, Wachsmuth's presentations have not been critically examined. When my first essay "Ueber die notwendige Unterscheidung der aetherischen Bildekraefte von den Aetherarten" ["Concerning the Necessary Distinction Between the Etheric Formative Forces and the Ethers"]² was published, Wachsmuth published a rebuttal. His essay,³ however, did not contain an objective argument either for the correctness of his viewpoint or the error in mine. Because of the uncritical acceptance of Wachsmuth's views, his error has passed into a large part of anthroposophical literature.

Rudolf Steiner himself did not give a systematic presentation of the ethers and the formative forces. However, there is such a wealth of detail pertaining to them in his lectures and books that it is almost impossible to survey them all. Each time he presented them from one viewpoint or another depending on the respective context of the themes of general anthroposophical, medical,

educational, agricultural, or scientific nature. It is not the intent of these essays to gather all those details and show their connections. Instead, the attempt is made to develop the idea of these entities based on Rudolf Steiner's basic references, i.e., the names of the ethers, their sequence within cosmic development, and the contrast between the elements and the ethers. If this succeeds, the basis is given for an understanding of Rudolf Steiner's manifold indications and for recognizing them in each case as a particular manifestation or characterization of the idea.

In the etheric body the ethers are gathered into a unity and a totality, and together they function organically. In addition, each ether has a separate activity in which it operates inorganically, obeying the laws of physics. The different aspects of the ethers and the etheric formative forces can in general be called "the etheric," just as physical facts in general are called "the physical." The portrayal of the etheric is a task necessary in our times; however, it has to ensue from the indications given by Rudolf Steiner.

Basel, Easter 1974

Ernst Marti M.D.

2. Trans. note: Ernst Marti, "Ueber die notwendige Unterscheidung der aetherischen Bildekraefte von den Aetherarten" [Concerning the Necessary Distinction Between the Etheric Formative Forces and the Ethers], *Beitraege zu einer Erweiterung der Heilkunst nach geisteswissenschaftlichen Erkenntnissen* [Contributions to an Enhancement of the Art of Healing Based on Insights Gained by Spiritual Science], 13th year. (Stuttgart: Arbeitsgemeinschaft anthroposophischer Aerzte [Working Association of Anthroposophical Medical Doctors], 1960).

3. Guenther Wachsmuth, "Zur Richtigstellung" [A Rectification], *Beitraege zu einer Erweiterung der Heilkunst nach geisteswissenschaftlichen Erkenntnissen* [Contributions to an Enhancement of the Art of Healing Based on Insights Gained by Spiritual Science], no. 2 (Stuttgart: March/April 1960).

CONCERNING THE NECESSARY DISTINCTION BETWEEN THE ETHERIC FORMATIVE FORCES AND THE ETHERS

Modern science does not recognize the four elements of fire, air, water, and earth. The solid, liquid, and gaseous forms of matter are not elements. The Greek concept of nature was based on the recognition of the four elements. Somewhat as a fifth, ether was added. Aristotle said of ether: "It is that which is different from earth, water, air, and fire; it is eternal and eternally revolves."⁴

This concept of nature with its doctrine of the elements came to an end with the onset of the modern age. When the blue sky was no longer the boundary of the world—like an etheric skin holding the universe together as a whole, as an organism, within which everything had its proper place—when, instead, the concept arose that the world is but an assembly of parts, the idea of the elements, which can only be understood within a totality, was also lost. The world was now envisioned as some kind of aggregate. With a slight variation of one of Goethe's aphorisms one could say: "Aggregate is the summation; element is the result of experience. To arrive at the aggregate, intellect is necessary; to grasp the element, reason is required." ["Aggregat ist Summe, Element Resultat der Erfahrung. Jene zu ziehen wird Verstand,

4. Aristotle. *De caelo*.

Trans. note: "... which moves with a circular motion . . . And so, implying that the primary body is something else beyond earth, fire, air, and water, they [our ancestors] gave the highest place a name of its own, *aither*, derived from the fact that it 'runs always' for an eternity of time."

Aristotle. "On the Heavens." *Aristotle*, vol. 1. Great Books of the Western World, vol. 8 (Chicago: Encyclopaedia Britannica, Inc., 1952, reprint ed. 1982) p. 361.

dieses zu erfassen Vernunft erfordert"].⁵

The idea of the ether lived longer in science [than the classical idea of the elements] and was not abandoned until the 20th century. Instead, almost as antitypes, other world entities pushed their way into scientific focus and practical application: electricity, magnetism, and, today, the force upon which atomic phenomena are based. Rudolf Steiner once called these three "corrupted

5. Johann Wolfgang von Goethe, "Sprueche in Prosa" [Aphorisms in Prose]. Trans. note: "Begriff ist Summe, Idee Resultat der Erfahrung; jene zu ziehen, wird Verstand, dieses zu erfassen, Vernunft erfordert." [The concept (Begriff) is a summarizing (of experience) which requires intellectual ability. The idea, (on the other hand,) is the result of experience and can only be grasped with reasoning ability.]

Johann Wolfgang von Goethe, "Sprueche in Prosa," [Aphorisms in Prose], *Goethes Saemmliche Werke in zehn Baenden* [Goethe's Complete Works in 10 Volumes], vol. 1 (Stuttgart: Verlag der J. G. Cotta'schen Buchhandlung, 1875), p. 845.

This statement demonstrates Goethe's concern with two different mental activities. The first activity he saw as taking what has been experienced and summarizing it in concepts. He referred to it as "Verstand" [intellect]. The second activity he saw as a process by which one patiently and carefully observes the visible and then, refraining from the urge to attach concepts to it, waits until the phenomena themselves reveal the *idea*. This he called "Vernunft" [reason].

Another quote from "Aphorisms in Prose" shows what he meant by these two processes: "Die Vernunft ist auf das Werdende, der Verstand auf das Gewordene angewiesen; jene bekuemmert sich nicht; wozu? dieser fragt nicht; woher?—Sie erfreut sich am Entwickeln; er wuenscht alles festzuhalten, damit er es nutzen koenne." [Reason is directed toward what is in process of becoming, intellect toward what has already become. Reason does not ask: for what? Intellect does not ask: where from?—Reason rejoices in evolving, intellect wants to hold everything fast so that it may use it.]

Ibid. p. 831.

In addition, the following summary may be helpful.

"Processes belonging to inorganic nature, i.e., limited to the world of the senses, essentially are caused and determined by other processes, also limited to the world of the senses. . . . If I wish to understand such a process, I have to consider as one concept the whole process consisting of cause and effect." Such a concept does not determine the process. It has no effect. It is not in it. "The concept only serves our mind to summarize cause and effect under one term." It is abstracted from the observable by our mind, our intellect (Verstand). It makes possible our understanding of inorganic nature where interactions between observable entities and mutual dependency of the entities on each other is the rule.

This kind of thinking was accepted by Kant as the only possible thinking. He called it discursive.

"On the other hand, if we want to understand the organic in nature, we have to grasp the concept not as one that expresses something else, represents it, and

ethers."⁶

When Rudolf Steiner gave the fundamentals for a new knowledge of nature through Anthroposophy, his first deed, which cannot be taken seriously enough, was re-founding the knowledge of the four elements. His works are permeated with ever new references to the nature of the elements, their relationships, and evolution. At the same time he created a totally new knowledge of the ethers. The homogeneous ether of the Greeks was seen by him as fourfold: as warmth ether, light ether, tone ether, and life ether. He revealed their essential nature, their cosmic and world relationships, and their genesis.

What then is ether? It is still quite distinct from earth, water, air, and fire, yet it remains in connection with them in conformity to natural law. Rudolf Steiner recognized and described the birth of the elements and ethers out of Saturn's warmth⁷. They are born in pairs [of element and ether], a new pair during each of earth's evolutionary stages; during the Saturn stage warmth ether and warmth (fire); during the sun stage, light ether and air; during the moon stage, tone ether and water; during the earth stage, life ether and earth. Four pairs of siblings, arising from the same origin,

borrows its contents from it. We have to recognize the idea as such, having a content by itself, not stemming from the spatial, temporal world of the senses." It has to be an entity creating out of itself, manifesting itself by its own force, not according to the influence of other objects. That man is capable of grasping such concepts, which may be called intuitive concepts, was demonstrated by Goethe. He called such concepts "idea," "entelechy," "archetype," and the means by which to grasp these concepts "Vernunft" (reason) as opposed to the summarizing intellect or "Verstand."

Rudolf Steiner, *Rudolf Steiner Gesamtausgabe*, vol. 1: *Goethes Naturwissenschaftliche Schriften*, 3d ed. (Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1973) pp. 81-87.

Engl.: Rudolf Steiner, *Goethe the Scientist*, trans. by Olin D. Wannamaker (New York: Anthroposophic Press, 1950).

6. Trans. note: Dr. Marti told the translator that he obtained this statement ("verderbte Aether") from Dr. Ita Wegman who received it from Dr. Steiner in a personal conversation.

7. Trans. note: Lecture Munich, August 20, 1910 in: Rudolf Steiner, *Rudolf Steiner Gesamtausgabe*, vol. 122: *Die Geheimnisse der biblischen Schoepfungsgeschichte*, 5th ed. (Dornach, Switzerland: Rudolf Steiner Verlag, 1976) pp. 80-81.

Engl.: Rudolf Steiner, *Genesis, Secrets of the Bible Story of Creation*, trans. by Dorothy Lenn and Owen Barfield, 2d ed. (London: Anthroposophical Publishing Co., 1959).

each pair having an upper and lower sibling, a celestial and a terrestrial, intimately permeating each other and working cooperatively in the organic world, becoming differentiated in the inorganic world; yet, never consummate in the world of nature. Like the physical elements, the etheric are each quite characteristic and distinct in regard to their composition, behavior, and effect. If as a whole one compares them to each other, then the ethers are the superior, the imponderous, the unifying, while the physical elements are the inferior, the ponderous, the individualizing. The elements have, so to speak, their origin in the center, the ethers in the periphery. The former are central, the latter peripheral; the former are point-like, individual, the latter universal, comprehensive. Mathematically speaking, one could say they relate to each other like plus and minus, positive and negative.

In their totality they form in unity the body of the world and man. The body of man is physical-etheric; one can speak of a physical and of an etheric body. But try to find the elements as such in the physical body! At first there is no difficulty, for example, to assign bones and teeth to earth and blood, lymphatic fluid, and liquids to water, because the solid, the crystalline, is a manifestation of the earth element, as the liquid is a manifestation of "water."⁸ But then one becomes aware of something surprising: blood, lymph, and liquids are each "water." However, so are rain, milk, and gasoline. Yet, each of these is something specific, differentiated. What then is "water" as such, when it does not appear in the garb of a specific substance? It cannot be found in the world of our senses. "Water," as such, denuded, without a peculiarly distinguishable, specifying, or individualizing characteristic does not exist. The same holds true for the other elements. The elements can nowhere be found as principles, pure and simple. They permeate everything physical and are the basis for the physical. They make it possible, give it existence, but not its particular form of existence. Something else must be added for reality to be created with all its specific characteristics. The

8. For clarity, the elements will be in quotation marks in the balance of this essay.

4
INDIVIDUAL BUT UNDIFFERENTIATED!
Elements give existence but not particular form.

physical world, including man's body, appears before us as differentiated substance. "Earth," as such, is not able to produce gold, quartz, the substance of teeth or bone, as little as "air" can produce oxygen, carbon dioxide, or the fragrance of a rose. Something else has to be there which creates out of the elements the individual specific substances. What is that something?

For this question, too, Rudolf Steiner presented a solution. He showed that the stars are the originators [Ur-Heber] of the individual substances. The forces of the stars create the individual substances from the initially undifferentiated potentialities of the elements. Regarding the planets, Rudolf Steiner explained this in detail.⁹ Mars is the creator of iron, Saturn of lead, sun of gold, etc.¹⁰ The forces of the stars can also work together: Through the cooperative working of the planets on the near side of the sun, antimony came into existence.¹¹ However, the constellations of stars are also active in creating substances. The forces of Aries create silica; those of Taurus, nitrogen. Rudolf Steiner did not give many indications concerning the influence of the constellations, which leaves an open field for further anthroposophical research. The direction is given: substances are the condensed effects of the stars arrested in the elements.

When we look at the body of man, at a rosebush, or at a deer, we not only find different substances, but also a multitude of different forms and shapes: the individual shape of a person, the shapes of ear and nose, foot and hoof, leaf and blossom, etc. Where do these shapes come from? From the elements? From the substances? The elements, being the potential for substance to come into existence, do not themselves have formative powers. At best one might

9. Trans. note: Lecture Dornach, March 26, 1920 in: Rudolf Steiner, *Rudolf Steiner Gesamtausgabe*, vol. 312: *Geisteswissenschaft und Medizin*, 3d ed. (Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1961), p. 131.

Engl.: Rudolf Steiner, *Spiritual Science and Medicine*, 2d impression (London: Rudolf Steiner Press, 1948).

10. For decades, L. Kolisko traced and confirmed the relationships between planets and metals. See: L. Kolisko, *Sternenwirken in Erdenstoffen* [Effects of the Stars on Earthly Substances] (Stroud, Great Britain: Kolisko Archives, 1952).

11. Trans. note: Lecture Dornach, April 8, 1920 in: Rudolf Steiner, *Geisteswissenschaft und Medizin*, p. 354.

consider the cubic and half-moon forms¹² as expressions of the "earth" and "water" elements, but these forms are more a symbol of the actions of these elements. The formative forces of the individual substances are described in chemistry, physics, and crystallography, which clearly show that the substances, insofar as they crystallize, can have specific forms. However, the resulting structures are completely different from those of the human body, the rose bush, etc. Neither the individual substances nor their combinations are the originators of the natural forms and structures. Where, then, is their origin?

A clue provided by Rudolf Steiner can lead us further. His discovery of the etheric body¹³ as architect and builder of the physical body explained the form of the body's manifestations. What does the architect do? He draws the plans and designs the forms of the structure which the workers erect from the building materials. The etheric body shapes and builds the physical body; in it we have to seek the creator of the forms and structures. That we are on the right path with these thoughts is confirmed by Rudolf Steiner's research, which shows that the etheric body is at the same time also a formative forces body. What does this mean? What is a formative force?

Are the four ethers as such already creators of form, that is, are they formative forces? No. On their own, they can no more create forms than the physical elements can. What is attributed to them in Guenther Wachsmuth's books (cubic, half-moon forms, etc.) is not their activity. If one considers all that can be known from Rudolf Steiner about each of the ethers, nothing of the nature of a formative force emerges. He himself never calls them formative forces and strictly distinguishes between the ethers and the

12. Trans. note: Wachsmuth, *Die aetherischen Bildekraefte*, vol. 1, pp. 46-47, 179-189, 235-239.

13. Trans. note: Rudolf Steiner, *Rudolf Steiner Gesamtausgabe*, vol. 9: *Theosophie* [described by Rudolf Steiner on page 22 of the book as: Wisdom of the gods revealing the essence of man and his destiny], 28th ed. (Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1961) pp. 37-38.

Engl.: Rudolf Steiner, *Theosophy*, trans. by A. P. Shepherd, 4th ed., (London: Rudolf Steiner Press, 1973).

↓ ethers ← SIMO → Elements
formative forces. Something has to supervene and make the ethers into formative forces, just as something supervenes in order that the four elements may become concrete substances. Like the elements, the ethers are only the potential, the groundwork for the formative forces. But what has to supervene?

To understand the elements and substances, we have to follow a train of thought similar to that concerning the ethers. Even if we do not yet have the perceptual ability to observe the ethers directly (which calls for at least the imaginative¹⁴ level of cognition), we can, through thinking and conceptualizing, gain adequate and reliable insight into these matters once we gained clarity concerning the universal conjunction and contrast of the physical and etheric, the positive and negative world. Just as the elements never appear anywhere denuded but are always clothed in a corresponding substance, so it is with the ethers. No ether appears "naked." It is clothed in a formative force. This can be taken at first as a hypothesis, to be thought through from all sides and compared with the phenomena of reality.

In the same way that the substances are connected with the forces of the stars, so too are the formative forces. The instinctive view that the shape of man's body is formed by the forces of the zodiacal stars was confirmed by Rudolf Steiner. Aries forms the

14. Trans. note: In addition to our familiar processes of perceiving and thinking, Rudolf Steiner spoke of three distinctly enhanced levels of perceiving and understanding the world. He called them Imagination, Intuition, Inspiration.

Rudolf Steiner, *Rudolf Steiner Gesamtausgabe*, vol. 10: *Wie erlangt man Erkenntnisse der hoeheren Welten?*, 22d ed. (Dornach, Switzerland: Rudolf Steiner Verlag, 1975).

Engl.: Rudolf Steiner, *Knowledge of the Higher Worlds and Its Attainment*, (Spring Valley, N.Y.: Anthroposophic Press, 1983).

In the above book he gives indications as to how each person may develop the ability, latent in all men, to perceive at these enhanced levels of awareness. Throughout Rudolf Steiner's many books and lectures, one can find references to these enhanced levels of understanding. One systematic description can be found in the book:

Rudolf Steiner, *Rudolf Steiner Gesamtausgabe*, vol. 12: *Die Stufen der hoeheren Erkenntnis*, 5th ed. (Dornach, Switzerland: Verlag der Rudolf Steiner-Nachlassverwaltung, 1959).

Engl.: Rudolf Steiner, *The Stages of Higher Knowledge*, trans. by Lisa D. Monges and Floyd McKnight, 3d ed. (New York: Anthroposophic Press, 1981).

forehead and head, Gemini the pairs of shoulders and arms, Pisces the feet,¹⁵ just to name a few. The planets form the inner organs—Venus the kidneys, Mercury the lungs, etc. The stars and planets do not fashion all of this directly in the physical (which would bring about substances), but indirectly by means of the etheric body. The stars stimulate the formative force in the etheric, which then brings forth the form appearing in the physical. How, then, do we gain knowledge of the individual etheric formative forces and access to them?

In order to find the right answer, we can refer to Rudolf Steiner's last Whitsuntide lecture,¹⁶ in which he described the blue firmament as the boundary of world ether. The etheric world reaches up to the firmament, the ocean of the four ethers which carry within themselves the four elements. At the firmament's boundary the stars appear through which the forces of spiritual beings enter the world of appearances. These are astral and spiritual forces. When the astral forces stream in by way of the portals of the stars (or streamed in during creation), they stimulate the ethers and create from them the formative forces. The spiritual forces penetrate more deeply into the elements and create in them the substances. Rudolf Steiner describes the totality of these forces as *The Word*,¹⁷ the cosmic word, which sounds in and through the

15. Trans. note: Lecture Duesseldorf, April 18, 1909 in: Rudolf Steiner, *Rudolf Steiner Gesamtausgabe*, vol. 110: *Geistige Hierarchien und ihre Widerspiegelung in der physischen Welt*, 5th ed. (Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1972) p. 144.

Engl.: Rudolf Steiner, *The Spiritual Hierarchies and Their Reflection in the Physical World: Zodiac, Planets, Cosmos*, trans. by R. M. Querido, 2d ed. (New York: Anthroposophic Press, 1970).

16. Trans. note: Lecture Dornach, June 4, 1924 in: Rudolf Steiner, *Rudolf Steiner Gesamtausgabe*, vol. 236: *Esoterische Betrachtungen karmischer Zusammenhaenge: Zweiter Band*, 4th ed. (Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1972) p. 239.

Engl.: Rudolf Steiner, *Karmic Relationships: Vol. 2*, trans. by George Adams, 2d ed. (London: Rudolf Steiner Press, 1974).

17. Trans. note: Lecture Leipzig, September 5, 1908 in: Rudolf Steiner, *Rudolf Steiner Gesamtausgabe*, vol. 106: *Aegyptische Mythen und Mysterien*, 4th ed. (Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1978) pp. 56-58.

Engl.: Rudolf Steiner, *Egyptian Myths and Mysteries*, trans. by Norman Macbeth, 2d ed. (New York: Anthroposophic Press, 1971).

stars. He discovered and reported the individual sounds of this Word and uncovered the relationship of the sounds of human speech to the stars. The consonants¹⁸ are related to the forces of the zodiacal stars, B to Virgo, M to Aquarius, etc. The vowels¹⁹ are related to the planets, O to Jupiter, I to Mercury, etc. He did similar research for the world of musical tone. All of this can be fully grasped and experienced, and becomes the key to the world of formative forces through *eurythmy*, the creation of which we owe to Rudolf Steiner. The eurythmic movements are movements of the etheric body made visible by the physical body, which, while performing eurythmy follows the etheric body in every way, as if having slipped into it. Through eurythmy (and in a lesser way through the other arts of word and tone as well) it is possible today to grasp the individual formative forces and find them again in nature. A future science of nature will no longer be possible without this knowledge. All formations of the plant—the leaf formation, calyx, blossom, fruit, etc., and all forms of man and animal—the outer form, the formation of eyes, skin, kidneys, etc., in every detail; the forms of water—wave, surf, drop, etc., become clear and visible as models of action and as forms of the formative forces. In the formation of fruit, of glomerules, of the eyes, the force of the "B" sound shows itself; in the formation of a leaf, of a lake, of the breasts, the "M" sound. These are indications which are meant to direct attention to the possibility of differentiating the individual formative forces and recognizing them by their effects.

Now one may ask: How many formative forces are there? At present one can answer only tentatively. In chemistry about 90 basic substances, chemical "elements" are known (aside from the elements beyond uranium). If one adds up all basic movements of

18. Trans. note: Lectures Dornach, July 7 and 8, 1924 in: Rudolf Steiner, *Rudolf Steiner Gesamtausgabe*, vol. 279: *Eurythmie als sichtbare Sprache*, 3d ed. (Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1968), pp. 189, 192.

Engl.: Rudolf Steiner, *Eurythmy as Visible Speech*, trans. by V. Compton-Burnett, J. Compton-Burnett, S. Dubrovik, and C. Dubrovik, 2d ed. (London: Anthroposophical Publishing Co., 1956).

19. Trans. note: Ibid.

speech eurythmy and tone eurythmy²⁰ a similar approximate number results.²¹

From these thoughts it follows that substances and formative forces are born of the stars; substances physically, formative forces etherically. What we thus separate in our thinking, however, meets us united in reality, as for example in the human body, or a rose. Nature's beings bear *form* and *substance* as a unity: they are formed substance. It is as if the etheric formative force has descended into what can be perceived by the senses and there produces the form. What in its own realm is pure force and movement, here becomes form at rest. The form of a deer, the shell of a snail are formative force come to rest.

etheric:	formative force	↓
physical:	form	

Is there something comparable for substance, that it is able to rise into the region of the forces, the periphery? Yes. Substance itself is a condensation from the region of the stars and can again rise towards them. Then substance becomes process. In Rudolf Steiner's description, metallic gold, as we have it before us, is gold process at rest.²² The gold process fills the universe all the way up to the firmament. But also the liver as physical organ is liver process at rest. The liver process permeates the entire organism and the universe as well.²³ Thus, each substance has to be recognized as process at rest.

etheric:	process	↑
physical:	substance	

In nature, substance and form appear only in combination.

20. Eurythmy is a revelation of the formative forces body. In the movements, gestures, and stances, eurythmy makes visible the entire range (Umkreis) of formative forces.

21. An addition by Ernst Marti to the new edition of 1981: The question was asked: "How many formative forces are there?" The answer attempted at that time, considering the number of chemical elements and the basic movements in eurythmy, is not correct. There are 12 and 7 (forces of the zodiac and planets) actual formative forces. A survey in preparation, will deal with this question, among others, in detail.

22. Trans. note: Lecture Dornach, March 26, 1920 in: Steiner, *Geisteswissenschaft und Medizin*, pp. 130-134.

23. Trans. note: Ibid., Lecture Dornach, March 31, 1920, pp. 220-221.

Therefore, we have to write: SPIRIT
Ether
etheric: formative force: process
physical: form: substance

With this we grasp a true totality. What combines the fourfoldness into a corresponding unit, can be called substance in the actual categorical²⁴ sense, as, for example, gold, or arnica.

Does such a study as this have practical value? Yes. The differentiation between ethers and formative forces is an absolute necessity, otherwise one loses one's way in the anthroposophical knowledge of man and the world. Guenther Wachsmuth's book *Die aetherischen Bildkraefte* [*The Etheric Formative Forces*], volume I, does not deal with formative forces, but with the different ethers. Rudolf Steiner always clearly distinguishes between the different ethers (or etheric forces) and the formative forces. In the first course of lectures for medical doctors he shows, for example, how specific organs are centers for individual ethers. The lungs are the center for life ether.²⁵ But the form of the lungs is not fashioned by life ether, rather by the special force building the lungs which, in turn, is the joint effort of several formative forces (at least one vowel and one consonant formative force). One can understand these indications only if one distinguishes clearly between ether and formative force. The same holds true for many other references given by Rudolf Steiner in his lectures and courses.

In studying the medical courses, one becomes aware that Rudolf Steiner almost exclusively refers to the physical substance of a plant when describing its healing properties, such as bitter substances, mucous substances, also certain salts or other chemical substances. Rarely does he refer to the plant's form. He does not give the signature of form, but of substance. Why? When one is concerned with preparing a medication, one works within the polarity of substance and process. If, however, I wish to treat someone with curative eurythmy, then I do this with formative forces and am working within the polarity formative force and form. Differentiating between the formative forces and the ethers will also prove beneficial to agriculture, because the individual

24. Trans. note: Categorical refers to an Aristotelian category.

25. Trans. note: Steiner, *Geisteswissenschaft und Medizin*, p. 224.

Vowel-planet ♀
Consonant-Consiellator ♂

WE IS WORKING ON THE PHYSICAL
Lungs
ETHERFORCE

agricultural measures are either concerned with the polarity of substance and process, or of formative force and form.

The statement that the elements only appear clothed by a substance, the ethers only by a formative force, must not lead to the opinion that recognizing and working with the elements or ethers themselves would be superfluous or impossible. Physics deals with them in thermodynamics, aerodynamics and hydrodynamics, mechanics, etc. Technology, medicine, agriculture, and other disciplines work with the elements. Physics is the science of the physical elements (hopefully, soon also of the ethers). Chemistry is the knowledge of substances. The science of the organs [Organik], as science of the living, is primarily the knowledge of the formative forces and processes. Form [Gestalt] is the term applied to the overall result, the overall appearance of the four sources of reality working together.

None of the four principles, formative force, form, process, substance, occur isolated in nature. Process and formative force are related as are form and substance in the sensory world. For clarity of understanding, however, it is essential that they be recognized in their individual natures. "Clarity in the specific, depth in the universal are the two most important requirements of reality."²⁶ As little as one would confuse gold, lime, milk, or wine when referring to the elements "earth" and "water," so one should not speak of formative forces when the ethers are meant. Likewise, considering the relationship of substance and process one should not say, rhythmical processes. Rudolf Steiner avoids this expression and speaks of rhythmical occurrences.²⁷ (Only very rarely does he say, rhythmical processes because our language is simply not subtle enough to finely distinguish such facts through words.)

If I have before me a person, or the leaf of a rose, or a kidney, I can look at them from the viewpoint of formative force, of forms, of substances, and of processes. Each time I become aware of

26. Steiner, *Goethes Naturwissenschaftliche Schriften*, p. 171.

27. See the pertinent essay by the author: Ernst Marti, "Vom Wesen des Potenzierens" [The Nature of Potentization], *Potenzierte Heilmittel* [Potentized Medicines], (Stuttgart: Verlag Freies Geistesleben, 1971).

something different about them. When one speaks of etheric body or formative forces body, they are two views of the same thing. This rule applies: "Thinking has to guide observation according to the nature of things."²⁸ The foursome of formative force, form, process, and substance provides the basis for understanding nature and man according to spiritual science. They themselves are again like four elements or sources. They are the four archetypal factors of existence [literally: four arch-deed-things].

28. Steiner, *Goethes Naturwissenschaftliche Schriften*, p. 123.

II

ABOUT THE FOUR ETHERS

Goetheanistic-anthroposophical understanding of nature is based on the fundamental view of essence and appearance. We experience reality through sense perception and thinking. The senses give us the appearance in sense perception; the essence, at first, we grasp as idea. In us, the idea has a pictorial quality; in nature it is active as essence. In order to experience the spiritual reality of the essence, higher cognitional abilities are necessary, namely imagination, inspiration, and intuition.²⁹ Becoming aware of the idea within reality³⁰ provides the foundation for science. One has to be clear about the role of the idea in science.

With this in mind, let us look at the four elements and the three states of matter. The solid, liquid, and gaseous states appear in perception; earth, water, air, fire are ideas which appear in manifold ways. Water, for example, appears as rain, blood, wine, gasoline. It shows the qualities (perceptions) moist, cold, liquid, etc. Water is a spiritual entity on which all that is liquid, moist, etc., is based.

The four elements, as they have been known since antiquity, and the four ethers, discovered by Rudolf Steiner, are spiritual entities, whose spiritual reality in the world of the elements can be experienced by imagination.³¹ Normal consciousness has to look for them and recognize them by their manifestations in the world of the senses. To this end, the phenomena of nature have to be ordered in the way Goethe ordered the phenomena of light in such an exemplary manner in his theory of colors.

29. See Trans. note: 14.

30. Trans. note: Steiner, *Goethe's Naturwissenschaftliche Schriften*, p. 126.

31. Trans. note: Imagination, in this context, is not what we generally refer to as imagination, but the enhanced consciousness called Imagination by Rudolf Steiner. See Trans. note: 14.

The entity which Goethe called light is identical to what Rudolf Steiner called light ether.³² Apart from this, there are three additional ethers according to Rudolf Steiner's research: warmth ether, sound ether or tone ether or chemical ether, and life ether, which are the basis for the phenomena of temperature, tone, chemistry, and life. The ethers' names point to those areas of appearance where they can first be found. They can be active singly or together. Individually, they are active in the physical; together they are the carriers of life. Their manifestations, therefore, can be found in the inorganic as well as the organic.

Rudolf Steiner clarified the appearance of the ethers in evolution and their mutual relationship. In evolution they are always created together with an element in this sequence: warmth ether/fire, light ether/air, tone ether/water, life ether/earth and in such a way that with each of earth's planetary stages³³ a new pair is added, which also then characterizes the respective stage.³⁴ The Saturn stage consists of warmth/fire. During the sun stage light/air is added, during the moon stage tone ether/water, and during the earth stage life ether and the earth element. Thus, the present earth consists of the four ethers and the four elements. The entities which are below the threshold of the senses, electricity, magnetism, and atomic power, require a special point of departure for their understanding, which shall be presented at some other time.

The task now at hand is to achieve a sufficient understanding of the elements and ethers, i.e., to study the phenomena of this world and to recognize them properly as manifestations (appearances) of the respective idea (ether, element). Rudolf Steiner

32. Light, as a purely spiritual entity, is a still higher principle yet than light ether. COLD LIGHT?
CAN TALKS
WATER WITH

33. Trans. note: According to Rudolf Steiner, there were several planetary developmental stages preceding our present earth stage. He called them the old Saturn, old sun, and old moon stages. Many references to these stages can be found in his writings, notably in: Rudolf Steiner, *Rudolf Steiner Gesamtausgabe*, vol. 11: *Aus der Akasha Chronik*, 4th ed. (Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1969).

Engl.: Rudolf Steiner, *Cosmic Memory: Atlantis and Lemuria*, trans. by Karl E. Zimmer, 2d ed., 2d impression (New York: Rudolf Steiner Publications, 1971).

34. In the present context, the expressions water, tone, etc. are always used in the sense of water element, tone ether, etc.

himself did not further describe the manifestations of the ethers. However, by virtue of his basic indications it is possible to characterize them in detail. For this purpose one may begin with the fact, discovered by him, that elements and ethers behave as opposites. It occurred that Saturn's warmth evolved into two opposing streams of development. One, pictorially speaking, descended to air, water, earth, while the other ascended to light ether, tone ether, life ether. These two streams, both in whole and in part, prove to be complete opposites, like positive and negative. One can summarize this relationship in a table with the elements arbitrarily classified as positive:

	<i>Saturn</i>	<i>Sun</i>	<i>Moon</i>	<i>Earth</i>
-	warmth/fire	light ether	tone ether	life ether
+		air	water	earth

Many of the elements' phenomena are known to us from school and from experience. Let us take a well-known phenomenon of an element and begin by mentally constructing the respectively opposing concept which can then be found as the ether's manifestation in the world of appearances. In order to do this, however, one first has to free oneself from today's material conceptualizations, which we all have, and look at the phenomena without any preconceived notions. One also has to take the different points of view, which will be presented in the following, and let them illuminate each other so that a complete picture of the ethers develops.

Let us start with the pair of opposites *air* and *light ether*. We are constantly surrounded by air and light, we live in them. How do we perceive them? Air is perceived as filling the space *between* things, while light is perceived *on* the things, not in the space between them. Light separates, it fashions around each thing a light/color border. Air connects things, as, for example, in a room; light separates them, makes them distinguishable from each other. Whether we are in a closed room or outside, we are always in a sphere of light and color surrounding us as walls, sky, etc. Light creates a border, an envelope enclosing us completely all around, from which we cannot escape. Within this space it creates distances, conditions of space: here, there, in back, in front. One

LIGHT SEPARATES & JOINS

can experience what is meant when one switches on the light in a darkened room. Immediately, everything becomes visible; the light throws a border around the objects, makes them distinguishable, shows their location, their size and configuration in space, and by means of a light/color periphery joins everything into a common space. When the sun rises, not only do things become visible, but space gets larger. The flickering of the candle shows how space expands and contracts. We experience the same thing through our eyes, which are organs of light, when we look into proximity and distance. Light creates space by bordering, enveloping. Light and space are inseparable; where there is light, there is space. Light actively creates space; because of light, space appears. In regard to space, air is passive; it fills the space at its disposal. It is content and does not create a border. These thoughts presuppose the understanding that space is not a pre-existing vessel but is an idea becoming visible through the separateness of things.³⁵ Light is the fundamental condition and fundamental entity necessary for space to appear, because it creates the possibility of differentiation.

Nitrogen
Nabent

The different relationship of light and air to space is also shown by the following: air by itself is without direction, without structure, it is chaotic, therefore the expression *gas* (from the Greek *chaos*). Light is structured, has direction, streams from the source to the periphery. As the ray of vision goes in a straight line from our eye, so also is light thoroughly linear and straight. The most characteristic property of air is its elasticity; it can be stretched and compressed. The opposite of elasticity is brittleness. Light is brittle and therefore it can be separated. If you beat into the air with a stick, the air gives way and unites again behind the stick. Place the stick before a burning candle; the stick separates the light which does not unite again behind the stick, but continues streaming in separate straight lines.

35. Science has been concerned with space since antiquity. In his essay "Der Goethesche Raumbegriff" [Goethe's Concept of Space] (see Appendix), in his introductions to Goethe's scientific works, Rudolf Steiner, clarified the problem of space and the three dimensions. His findings are also the necessary foundation for understanding the etheric.

Steiner, *Goethes Naturwissenschaftliche Schriften*, pp. 288-295.

CONTRADICTION

A further trait inherent in air is tension. Air without a certain degree of tension does not exist. Tension is an inner effect, creating and preserving cohesion. Air can be diluted as much as one wants to, it still remains cohesive. Light exhibits the opposite phenomenon, everything is outer effect, externalization. Take a source of light, the flame of a candle. What is essential is not what holds it together, but what releases, surrenders, rays out towards the periphery. The increase or decrease of tension which air exhibits corresponds to the stronger or weaker intensity of light, i.e., a greater or smaller area of illumination. The fact that light extends and expands space is demonstrated in the organic world in the phenomena of growth, of extension, and of the increase of volume.

The size of an organism, its spatial configuration is indicative of the light ether activity within it. *in which way?*

Related to tension, actually its polarity, is pressure. It is an effect that is directed from the outside in. Consider the earth's atmosphere. It compresses the earth from the outside. The opposite of pressure is suction. Therefore, if the polarity between elements and ethers exists in the manner described, light ought to have a sucking effect. Does it have that? Yes, one only needs to recognize the respective phenomena. The periphery, the horizon, whether near or far, attracts our gaze. If one attempts not to see with eyes open, the very effort one has to make not to see anything, makes one aware how light carries the gaze along, pulling it towards the periphery, to the surface of things. Today, sight is explained as rays of light entering the eye. In entering, however, the light rays call our consciousness out towards the periphery, into space. In a similar manner, in a dark cellar, light draws the potato sprouts towards the light; it causes the blossoms to turn towards the sun, twisting to follow it. Over and above this special heliotropism, the entire plant world shows a phototropism, which needs to be recognized correctly. Air, from all sides, presses towards the earth centripetally. Light ether sucks on the earth "periphera-petally" from all sides [towards the sky]. This fact becomes visible in the growth of plants. Everywhere, plants strive away from earth towards the cosmic sphere. One may draw a picture of the earth with fir trees standing on opposite sides of the earth. Such a drawing would show the actual effect of the

"periphera-petal" forces, which, by contrast to the pressing of the air, are sucking forces. According to Rudolf Steiner's research, the activity of light ether is active in the "periphera-petal" forces. Tension and pressure of the air element reveal its tendency towards the inside, towards a center. The activities of raying and sucking, as well as enveloping, show light's relationship to the periphery, to the sphere. The point is a basic principle of air, while the periphery is one of light.

Summarizing the results obtained so far (more will be added later), we can say that light ether reveals itself in raying, illuminating, and sucking actions. It makes things visible from the outside by making their spatial boundaries apparent, and it makes things visible from the inside as the force of growth which causes all living things to occupy space. It separates the outside from the inside. It relates everything to the periphery it creates. Its activities require the coining of a new word: light ether spaces (raumt).

With the opposing pair water and tone ether, one can take as a point of departure the fact that water is continuous; it is consistent throughout. The opposite of consistency, which would have to be a characteristic of tone ether, is discrete, erratic, separate. For example, consider the following phenomenon: when it rains, individual rain drops fall. They combine to form a puddle, a brook, a river, a lake. In the ocean there are no longer individual droplets, but a whole. By contrast, consider a symphony concert. It consists completely of individual tones; the music would disappear if all the tones would run together. Music exists only by virtue of intervals, distances, simultaneity, and sequence. Music is based on a force that separates, keeps apart, while the separate parts still maintain their relationship. Again, one can take the example of the raindrops joining each other until they reach the ocean. They gather, give a sum, a whole. This joining together and surrendering into each other, which is characteristic of water, becomes particularly evident on a map showing the water courses. The exact opposite picture is that of a tree. From a trunk it separates out, dividing itself into branches and twigs, into leaves which sometimes even differentiate themselves further. The whole tree has grown from the sap, from the liquid. Why does this liquid behave exactly the opposite of regular water? It is the tone ether activity in

the forces of growth, splitting what is uniform and letting it grow apart. Water extinguishes the multiplicity. It does not really make a sum out of it, but a whole, a mass. Tone ether separates, drives into number and numerical relationships; distances develop, fractions, doubles, multiplications, divisions; one can add and subtract. The world of numbers makes its appearance through the tone ether activity. For this reason, Rudolf Steiner also refers to it as numerical ether. Numbers are archetypically discrete. When one hears a single tone, it appears, at first, as a whole, without anything discrete. And yet, each tone is based on something discrete—the two vibration nodes. Their distance from each other is essential for that tone and has to be maintained if the tone is to remain the same. Nodes with a measurable relationship to each other are a phenomenon characteristic of tone ether activity.

Although originating from two different words, the expressions discrete and concrete may be used as concepts for two basic, opposite phenomena—that of growing together and of growing apart. For example, take two drops of mercury lying close together. The moment they touch, they unite; two turn into one; they melt together. This is one of the primal phenomena of the water element and is at the same time a basic phenomenon of life. It occurs in the joining of two cells, as in fertilization: *concrescere*. The opposite phenomenon—that of splitting into two and separating—occurs through the activity of tone ether; in the inorganic, for example, in the formation of tonal nodes, or in Chladny's sound figures; in the organic, as mentioned before, in the trees' formation of crowns, in the plant's branching out as macroscopically visible manifestation of the basic fact of cellular division. The growing apart of a dividing cell reveals in a most beautiful way the effect of the tone ether's activity. During cellular division, at first two nodes develop, the centrosomes, from which the entire process of division emanates and is regulated. If one makes a condensed motion study of the individual stages of cellular division, as described, for example, in a history of evolution, a process is revealed which is identical to the development of Chladny's sound figures: *discrescere*. Fertilization and cellular division, the primal facts of all things organic, relate to each other like the water element and tone ether. The effects of this opposing pair show up even in the soul life

as sympathy and antipathy. In the end, the separation into the sexes comes from this source, also. The whole of existence is interwoven by the effects of water and tone.

In the world of physics, additional opposites become evident. Water is liquid; it not only flows outwardly from the mountain to the valley, but especially inwardly, it is thoroughly liquid, i.e., constantly sliding within itself, slipping. By contrast, tone ether demonstrates the strength to hold fast. It forms nodes and holds them firmly. Tone ether is not only active as tone in the air, but also in water, its sibling. Rudolf Steiner also calls tone ether chemical ether because it is the carrier of chemical activity. The substances chemically relate to each other according to the laws of numbers; their chemical correspondences and forces are manifestations of the chemical ether. A solution of H_2SO_4 is as if resounding with the numerical order of this substance. The components of the substance are arranged within the medium as points, not arbitrarily, but rather as nodes having a numerical relationship to each other. This behavior becomes visible in the X-ray of a crystal or in its structural display model. The binding force of chemical ether, mentioned above, shows itself therein. While in a crystal the nodes^a are frozen rigidly, in a solution they are fluid, swinging.

Tone and water, each by itself, are polarized into an active and passive side. With tone this appears as the contrast between nodes and oscillation. That which is essential occurs between the nodes. With water this contrast appears as rocking and rolling. Consider the following: When a stone is tossed into a lake, waves are formed which spread towards the shore from the point of impact. A cork, swimming on the surface, rocks up and down as long as the waves are moving. It shows that the particles of water are moving up and down, while the waves are spreading horizontally. When the waves have subsided, the particles of water are at their original location. The point here is the rocking up and down of the particles and their remaining in place while the wave moves away, i.e., matter remains and the wave is only external to it. Yet, the principle of wave formation belongs to the essential nature of water. This is shown, for example, in the meandering of flowing water. The principle of repetition appears in combination with wave and oscillation. The idea of natural movement leads back to the

phenomena of tone and water as outlined above.

Water possesses an additional important property: it is dense. Conversely one has to say tone ether is "loose"; it loosens, makes holes, gaps. Music and chemistry consist of intervals; the essential is in the in-between. This becomes visible in the lattice of a crystal which consists predominantly of gaps. Water is compact, has mass; tone ether is porous. Weight is mass. Water is heavy, it has weight; it provides the measure for weight. Tone ether is light, it makes lighter. Again, one take the H_2SO_4 solution. The numbers actually refer to the elements' proportional weight, but in the solution the elements behave as if they were weightless. Such a solution is homogenous, i.e., the upper portions of the solution contain as many elemental particles as the lower portions: gravity exerts no influence on these elements, it is overcome. This is the effect of the chemical ether. In the case of a tone, one can't ask how much it weighs. The problem heavy/light, also weight and its counterpart, weightlessness, belong to the realm of water and tone and not, as often thought, to the realm of air and light.³⁶

A single tone does not fully reveal the characteristics of tone ether. Tone ether can be better recognized with all its characteristics by its chemical activities. In a saline solution, the salt is evenly spread throughout the entire medium, evenly arranged in it. In Greek, to evenly arrange is *harmonia*, to harmonize. Tone ether, according to its primary nature, harmonizes. The Ancients experienced this as the harmony of the spheres. Harmonizing, building a

36. There is a simple experiment by which one can sense the sucking-lifting effect of the ethers. It consists of the following: Lift up one arm sideways into the horizontal position. This can be done without difficulty. Now stand next to a doorjam, a closet, or a similar obstacle and try to lift the arm. This is not possible because of the immovable obstacle. Now, in spite of this, with the arm hanging down, its outside and back of hand touching the obstacle, press with all your might against the obstacle for about half a minute, trying to lift up the arm. Then withdraw your will from the arm, i.e., let it hang down relaxedly and take a step forward. With surprise one will then experience that the limply hanging arm, as if by itself, is moving up, sometimes up to or even above the horizontal position previously intended. This raising of the arm occurs without engagement of one's effort or will; one has the feeling the arm is weightless and is swimming or being sucked upwards. What has happened here? This event can be explained by the understanding of man based on spiritual science. The will to lift up the arm, being an impulse of the soul, affects the arm in such a way that it grasps the etheric body

structure, organizing, presupposes separate entities being brought into a measured relationship. Tone ether does this visibly for instance in the Chladny sound figures, or in the positioning of a plant's leaves along its stem.

Summarizing the preceding, tone or chemical ether can be characterized as that principle which separates, creates distances, forms nodes, makes buoyant versus heavy, harmonizes, creates order. Measure, number, and weight have their origins in the realm of water and tone.

Thinking in terms of opposites will be especially helpful when looking at the pair *earth element* and *life ether*. At first, life ether is the most difficult to grasp because it does not reveal itself to any of the particular senses; it is the enlivening force itself which cannot be found directly in the inorganic. *CONTAINS AN ether ether*

The earth element finds expression in solids. Solids are rigid. Life ether creates the opposite: inner mobility, which is to be distinguished from mere movement and also from liquidity. Each component of a flowing liquid is moving within the totality. Each component of life ether is moving in accord with the overall design. Connected with the concept of rigidity is that of impermeability. A solid body requires its own space; two bodies cannot simultaneously occupy the same space. The earth element rejects; it asserts itself in an outward direction. Life ether is the force of self-permeation in an inward direction, of inner self-assertion, of inner integration. It does not reject, but absorbs, thereby providing the basis for assimilation. This is connected with a further fact.

of the arm, giving it the impulse for movement, whereupon movement of the physical arm follows. During the attempt to lift the arm against the obstacle, the intensive will, in a way, is able to separate the etheric arm from the physical arm and to lift it for a short time by itself. When the will subsides and there is no longer an obstacle, the etheric arm then draws the physical arm towards itself during which time the lightening, sucking effect of the etheric force is experienced. Spiritual science shows that the body of each living being, as long as it is alive, is permeated by this force of lightening. Since the etheric body permeates, above all, the liquids of an organism with its forces, all liquids of the body are permeated by this lightening force and not subject to gravity. For this reason, blood, for instance, almost effortlessly circulates throughout the human body. This explains why it does not collect like a mere liquid in the legs. This does not occur until man is ill and his etheric force can no longer keep in the lightening force all the liquids within him. Then his feet start swelling.

Trees grow up slowly.

individual whole has no parts but has members.

Every solid body has a surface which is indeed related to its material nature, but the shape of its surface is arbitrarily caused by outer circumstances. Life ether, on the other hand, creates a skin which is dependent not on matter and outer conditions, but on inner conditions, and is the expression of an inner nature.

A solid body can be divided. I can break some chalk into pieces, whereby the individual pieces become completely independent from each other (this is different from the division effected by tone ether). I can also break a leg, but then the opposing force of life ether shows itself: The bone can heal together again and become a whole. Life ether heals; it restores; it creates a whole, a healthiness; it replenishes. If an earthworm is cut apart, it restores each part to another whole; grass which is cut keeps growing.

The earth element and life ether individualize. Each stone is always a single piece, one part; and because it is divisible it consists only of parts, of individual portions. Life ether also creates individual entities, but the individual entity is a whole, is complete; it is everything in one, all-in-one (all-ein). According to its nature it is individual and does not have parts, but members. The whole lives in and by its members. Life ether is the principle that creates the whole. It is as though the whole is represented by the whole skin, which is like an outlet for the all-permeating force of life ether. This force is active in each individual point. Each point is moving and active according to the intent of the whole. The point is not a part, but a member. This is important, as in cancer, for example, when one cell excludes itself from the dominion of the whole and becomes independent.

The position of a solid body in space is inconsequential and arbitrary; it is dependent on externals. Life ether, on the other hand, creates posture, gives form to space internally and externally. For example, it polarizes and governs the fertilized ovum. It forms the human body for its upright carriage. The form of a solid body is determined by factors outside itself; marble is hewn from the outside. In contrast, life ether differentiates the whole in the several spatial directions, thereby creating form from within. It is a plasticizing of form out of itself; it is the whole which gives form to itself. All shapes and forms of living beings arise through this

plasticizing activity. Life ether creates living bodies (Leiber); the earth element creates lifeless bodies (Koerper).

In summary, life ether can be characterized as follows: It enlivens and individualizes in such a way that complete organisms develop which enclose themselves in a skin, permeate themselves as a unity, and form and structure themselves. Life ether forms living bodies (leibt).

A further possibility for the understanding of the elements and ethers is given by the knowledge of the *origination of space* as gained by spiritual science. The physicist C. F. von Weizsaecker maintains that space originated at some point in time. Spiritual science is able to determine when that happened. Space originated on the old sun³⁷ (trans. note: old sun stage). One has to become familiar with two unusual thoughts—with the concept of the evolution of space and the idea of the two kinds of space, of point-space and plane-space. The newer synthetic geometry shows the infinitely distant plane becomes a self-enclosed whole. Space can be viewed as originating from the infinitely distant plane or from the point at the center. In the first instance plane-space results. In the second instance point-space results. These two purely geometric mental concepts became reality on old sun when space originated. They became manifest through the origination of air and light; plane-space through the light ~~from the periphery~~, and point-space through the air. These spaces interpenetrate each other; the origin of the one is the end of the other. They behave towards each other as positive and negative, and in accordance with the terminology given above for the ethers and elements, plane-space can be called negative space and point-space positive space. The other unfamiliar concept is that of the evolution of space. Space also undergoes an evolution; it is not there ready-made from the beginning. Completely developed space has three dimensions. Rudolf Steiner shows³⁸ that on old sun space had only one

37. Trans. note: Lecture Berlin, November 7, 1911 in: Rudolf Steiner, *Rudolf Steiner Gesamtausgabe*, vol. 132: *Die Evolution vom Gesichtspunkte des Wahrhaftigen*, 4th ed. (Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1969), p. 34.

Engl.: Rudolf Steiner, *The Inner Realities of Evolution*, 2d ed., (London: Rudolf Steiner Publishing Co., 1953).

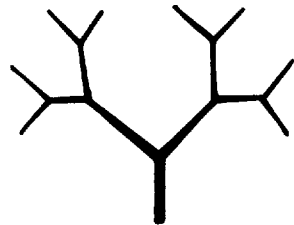
38. Trans. note: Steiner, *Die Evolution vom Gesichtspunkte des Wahrhaftigen*, p.

34.

dimension, on old moon two, and three not until our present earth stage. Rudolf Steiner's indications can be summarized as follows:

dimensions	- 1 light	- 2 tone	- 3 life ether
	+ 1 air	+ 2 water	+ 3 earth element

What does it mean that space was only *one-dimensional* on old sun? It means that there were only one-dimensional entities at that time, through which space had only a one-dimensional manifestation. On old sun light and air originated. They are one-dimensional entities. What is the characteristic of one-dimensionality? Linearity. Reference was made above to the raying, linear nature of light. It is one of the conditions of one-dimensionality that an entity within it may not touch itself. Light satisfies this requirement. Consider a source of light: it rays radially and linearly from the center to the periphery without touching itself in the least. The condition is also satisfied through parallelism and through the following behavior pattern (drawing).



This behavior shows up in plants. In their spatial laws of growth, plants are one-dimensional beings, never touching themselves. Look at a buttercup or an apple tree— one will find that they never touch themselves. Plants closely obey this condition. According to their essence they are one-dimensional, striving towards the periphery, thereby revealing the activity of light ether. Stand before a field of grain: the stems grow like rays away from the earth towards the periphery; stand before a linden tree: it does not grow like a ray in a straight line, but branches out; yet, it retains one-dimensionality and also reaches away from the earth towards the

Light - Line - Water - plane - earth solid

periphery. Its spatial appearance, its size, result from the light ether activity within it. In the branching out of the tree's crown, light's capacity to be split appears in the organic realm. The one-dimensionality of air can be found behind the phenomenon of tension. Tension is the one-dimensional effect two entities have upon each other. In the organic realm, the air element appears as elasticity; there is no stem of leaf or blade without it. Light and air are basic principles of the plant. It is primarily a one-dimensional being.

On old moon (trans. note: old moon stage) space appears *two-dimensionally*, because water and tone ether, originating during the moon stage, are two-dimensional. The plane is a two-dimensional form. Water, according to its essence, is a plane throughout. It shows its surface outwardly, but inside it is all plane; its flowing is an inner slipping of planes. A drop is also essentially a plane without a constituting center. The two-dimensionality of tone ether can be found in its pairs of nodes. For the nodes are not points arbitrarily, but conjugated, coordinated locations with spatial laws which becomes evident through the following consideration. One of the properties of a surface of water is its ability to reflect. Any object in front of a mirror appears as an image at the same distance behind the mirror. The surface of the mirror is real. Now consider the opposite and let object and its mirror image be real and the mirror's surface be imaginary; this demonstrates the laws of the two nodes which are equidistant from the imaginary central plane and which are ordered by it towards each other. What has just been described is the essence of symmetry, of the mirror image. Symmetry is a basic phenomenon of that which is organic. The arrangement into pairs, the right and left, is the effect of tone ether. The leaf of a plant reveals in a wonderful way the two-dimensional working of water and tone. In its plane-like form it is water; in its symmetry it is tone. In the leaf's veins the sap is flowing; in the separated fields of the net-like structure of the leaf the chemical [tone] processes are taking place.

Two-dimensionality can also be realized in another way—i.e., by touching itself. When a whole behaves in such a way that it touches itself, as, for example, when a line runs in such a way that it closes itself into a circle or crosses itself. Look at a bee on a flower,

scraping the pollen off its back with its legs, or a cat licking itself and in doing so each time touching itself with paw and tongue. The animal not only touches itself, but also its food when eating, the ground when walking, etc. However, now one has to differentiate carefully. Touching is an intermediate condition that can develop further towards either side. Touching results in a merging, or what touches can also separate again. The first is the effect of water, the second of tone ether, as described above. First consider the development of animals from the water element point of view. Water is the builder of planes. The fertilized ovum develops into

the blastula, a planar structure. This involutes into the gastrula. As planes, ectoderm and entoderm fold themselves in ever new involutions and evolutions during the development of the organs. Throughout, the animal is full of planes. Now consider the following process: The ectoderm involutes and forms the neural trench; the folds touch and grow together, the spinal cord develops. At some other locations, too, body parts touch and grow together, in the center line in front, for example, where the whole body grows together. If this does not take place properly, for example, a hare lip remains. Growing together is water element. The separating force of the tone ether sees to it that not all planes which touch in the organism (for example pulmonary and parietal pleura, etc.) grow together into one big, whole lump. Tone ether maintains the organs and parts of the organism as separate elements. The basic shaping of an animal's body, the forming of two symmetrical halves of the body, occur due to tone ether activity. Right and left are the precondition for an animal's ability to touch itself externally. In such touching, it is not the merging force of water which is active, but the separating force of tone ether.

The paws do not grow together, but the two, having touched each other, part again. Only a temporary stopping point comes about. The touching can repeat itself, thereby also becoming permeated with numeric characteristics. Through touching and separation an animal's movement becomes possible. A hare's track in the snow, consisting of individual points, is a picture of this. Touching and separating are also the basic conditions for the origination of tones, as evidenced by musical instruments. Tone and water are essential to an animal. In its formative laws, the animal is a two-

dimensional being.

The earth element and life ether affect the complete space, they are *three-dimensional*. The positive three-dimensionality of a stone causes its rigidity. It is as if the dimensions have been concealed in rigidity; they are of equal value and neutral; externally they can only be determined arbitrarily or by chance, and mentally they can be drawn through any arbitrary point of the stone as the x, y, and z axis. The stone's points are of equal value among themselves, each can be broken apart without disturbing the others; each can become the center. If I break the stone into pieces, in each piece a new point becomes the center, without this having any effect on the point. In the living organisms the central point becomes real, as, for example, the nucleus of a cell. The cell's nucleus, representing the earth element, is a real center. This is the difference between the cell and the drop which does not have a real center. When the nucleus divides, it does not continue as parts, but fashions itself into a new whole through the life ether's force. This effect emanates from the periphery, from the cell's skin. Within the cell and within the living being the dimensions are not of equal value. Life ether differentiates them and orients the cell and the living being into its surroundings. The spatial directions of above/below, right/left, front/rear arise. Only in the human being does this come fully to expression. Man is a true three-dimensional being. He is tri-centered, has three centers: in the head, the thorax, and the lumbar region. These three centers exist in their truly human order only when man stands upright. It was pointed out above that position is characteristic for the earth element, and posture, the active spatial relationship, for life ether. This becomes reality in the upright human body. This is expressed in the fact that man determines all space from this position. The upright human body is the source of all orientation in space. What is above or below, near or far, in front or behind, is derived from the upright human being. When I say, "There is a tree in front of the house," there is concealed in this formulation the experience of the upright human body. Everything is anthropomorphic, has reference to man. Relativity is possible only if one leaves out the human being (and the other living beings). In man, more than in anything else in nature, life ether becomes most visible—in the skin. Only man has

a skin in the true sense of the word; other creatures have fur, feathers, scales, plates. The human skin externally encloses in a pliable and flexible way the human shape and at the same time expresses the whole inner being. The earth element and life ether are peculiar to the human being. He is truly a three-dimensional being. In consequence he is not only an individual creature, but his body is the foundation for individuality.

A further point of view for the understanding of the elements and ethers arises from the question of *matter*. In the introductions to Goethe's writings on the natural sciences, Rudolf Steiner showed that "matter is that which fills space"³⁹ and as such is a phenomenon of the world of appearances. Matter and space mutually determine each other. During the evolution of earth, space first appeared on old sun. Only from then on can one speak of matter. The first material substances to arise were light and air. Spiritual science points out that all substance is condensed light. One has to keep in mind that light and air behave towards each other in a negative and positive manner. It follows from this that there must be positive and negative matter. Rudolf Steiner pointed this out many times. It is important to first gain an idea of negative matter. Fundamental to this is the understanding that the ethers relate to the elements as active to passive. (Compare the above description of earth element and life ether.) Negative matter is also matter in active form. In this way one arrives at the concepts of process and matter, which Rudolf Steiner discussed many times. Therefore, we have to distinguish, for example, silica and the silica process, gold and the gold process. By gathering all characteristics of the elements and ethers and looking at them from the viewpoint of positive and negative matter, insights into the problem of matter and process come about. This problem would require a detailed presentation by itself.

In the thoughts so far presented, the pair, *fire element* and *warmth ether*, which stands at the beginning of evolution, has been skipped over. It was not possible to refer to it until now because it is significantly different from the other three pairs discussed. For warmth is not spatial, it is zero-dimensional. The old Saturn

39. Steiner, *Goethes Naturwissenschaftliche Schriften*, pp. 275, 326.

consists only of warmth/fire. Warmth, according to Rudolf Steiner's presentations, is "intensive movement." The opposite is extensive movement, which presupposes space, which does not exist until the old sun. On old Saturn, warmth and fire are not separated, they are a single mobile unity; separation also presupposes space (in the diagram they are presented together and from their factual unity it follows that there are not eight, but seven realms of existence on this earth, three elements and three ethers and between them warmth).

In which form, then, does warmth/fire exist? As time! On old Saturn time originates, as space does on old sun. Warmth brings time into appearance. One can nevertheless attempt somewhat to differentiate warmth/fire. Characteristic of the fire element is its disappearance from the world of sense perception. All other elements are lasting; warmth dies away. Warmth ether leads into the world of appearances. It makes things come into existence and furthers their development, brings them to maturity. That a plant starts to flower at a certain point, that a child changes its teeth at around age seven, enters puberty at about fourteen—this is due to warmth ether activity. Warmth ether is the birth of time; fire is its dying away. They are like future and past, interpenetrating each other in the present. Warmth creates time, makes time. In Saturn's warmth there is no matter because matter requires space, and yet, there were already silica and gold on old Saturn. Substantiality in the form of warmth has to be called substance in contrast to matter.

For a complete understanding of the elements and ethers a further viewpoint is necessary regarding their *origination*, their source. In the description of light and air, reference was already made to one of their characteristic tendencies. Air strives towards the center, light towards the periphery. Rudolf Steiner explained how all elements have this tendency towards the center, all ethers the tendency towards the periphery. The former are active as if from a center, the latter as if from the periphery. In the real world, the center of the earth is the center of the elements. The surrounding cosmos, the celestial sphere, is the peripheral source of the ethers. Rudolf Steiner calls the former centric forces, the latter universal forces. The centric forces can be grasped mathematically.

cally; they can be traced back to one point of origin. The universal forces escape mathematics, because it is not possible to begin calculations at infinity. The centric forces are well known to modern science and are being used in technology; the universal forces are unknown to it, which is the reason why science cannot understand life. The discovery and description of the universal forces is one of the most important insights gained by Rudolf Steiner and is of greatest importance for the future. The elements represent the physical, the ethers the etheric; the physical is lifeless, the etheric is that which is actually alive. In the living organism all elements and ethers are working together. Singly, the elements and ethers are active inorganically, physically. In a living being the elements make up the physical body, the ethers the etheric body. In the universe they make up the body of the earth and the body of the universe; both are living organisms. Life on earth exists through the mutual interpenetration of etheric body and physical body. It ends when they separate. Then the physical body disintegrates and becomes a part of the whole earth. In the same way, the etheric body dissolves and becomes absorbed by the periphery of the universe.

The universal nature of the ethers has an important consequence. When the ethers take hold of earthly substances, they lift the earthly substances from the sphere of influence of the centric forces into the realm of the surrounding cosmos. For the earthly substances, however, this is a process of dissolution. Rudolf Steiner characterizes this as follows: "From all sides these forces exert their influence, as if aiming towards the center of the earth. They would completely rupture earthly matter, dissolving it into an amorphous state, if the effects of the heavenly bodies beyond the earth would not enter this force field and modify the dissolution."⁴⁰ At first it seems as if this description cannot be verified. However, Rudolf Steiner immediately points out where these relationships can be observed. "One can observe in the plant what

40. Rudolf Steiner and Ita Wegman, *Rudolf Steiner Gesamtausgabe*, vol. 27: *Grundlegendes fuer eine Erweiterung der Heilkunst nach geisteswissenschaftlichen Erkenntnissen*, 5th ed. (Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1972), p. 27.

Engl.: Rudolf Steiner and Ita Wegman, *Fundamentals of Therapy*, 3d ed. (London: Rudolf Steiner Press, 1967).

is meant here. In plants the earthly substances are lifted out of the realm of earthly effects. They strive to become amorphous. This transition into amorphism is modified by the effects of the sun and by similar effects from the cosmos."⁴¹ Observe, for example, the sprouting of a potato in the cellar: from the eyes of the potato the sprouts grow longer and longer; they visibly ray apart the potato's matter until they reach the light. When the sun's force is strong enough, it stems the outpouring of matter and lets the leaves appear so that a proper potato plant can develop. Basically, each sprouting of a seed is at first a bursting apart and extinguishing of form. Observe how a bean sprouts, splits the skin, moves towards the formless, and then is formed anew by formative forces.

As universal forces, the ethers dissolve form; they do not build it. They are not formative forces. In the passage cited above, Rudolf Steiner indicates what may be called etheric formative forces and where they come from. They also are forces coming from the periphery, but not from the entire periphery, not universal forces; they come rather from specific locations of the periphery, from the sun, from the stars. They are forces having a specific location within the periphery. Their ways and effect will be described in a future treatise.

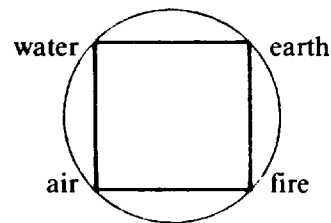
The present description is only a sketch of the four ethers, calling for expansion in many directions. Whoever begins to acquire an appropriate concept of the ethers not only enriches his knowledge but also gains a key for opening up many new insights and seeing new relationships in nature and man. Step into nature, for example, before a linden tree, with these concepts. The tree's size and spatiality are effect and manifestation of light ether. The artistic branching and ordering of the crown reveal the tone ether. Life ether is the reason that the myriad leaves, the branches and roots form a whole. The fact that the tree is 70 years old and blossoming at this very moment reveals the creative activity of the warmth ether. Likewise, one can look at an animal or a human being in the same way. In fact, all of nature can be looked at and understood in a new way when the ethers reveal that which creates time and space, harmonizes, and unites in the world of the senses.

41. Ibid, pp. 27-28.

III

THE WORKING TOGETHER OF THE FOUR ETHERS

According to the understanding of world and man in antiquity, the elements were presented in their natural order from the bottom up, from the earth element to the fire element, i.e., in an open sequence. However, there was also a cyclical presentation in a circle or square which opens up many questions. In that case two elements are always positioned diagonally to each other; all four make up the corners of a square. In which case



fire is assigned the lower corner at the right, air the lower corner at the left; water and earth are above on the left and right. Why is it that fire is now positioned below and earth above? Whether one reads clockwise or counterclockwise, there is a strange jump between earth and fire. Is there a reason for this arrangement? Modern man would not naturally make this arrangement. For he either does not know the four elements at all or, at best, he considers them a conceptual problem of only historical significance. Man of antiquity, however, not only recognized the four elements conceptually, but he also felt and experienced them. Rudolf Steiner once gave a description of how Aristotle taught Alexander about the four elements. In his writings, Aristotle described the four elements at length and elaborated on their importance for the world and for man. "Through Aristotle, Alexander learned how that which lives in the outer world as earth, water, air, and fire elements also lives inside man; how man, in this

respect, is a real microcosm; how the earth element lives in him, in his bones; how the water element lives in his blood circulation, in all his liquids, his vital fluids; how the air element is active in his respiration and in respiratory stimulation, is active in his language; and how the fire element lives in his thinking. Alexander was still aware of living in the elements of the world."⁴²

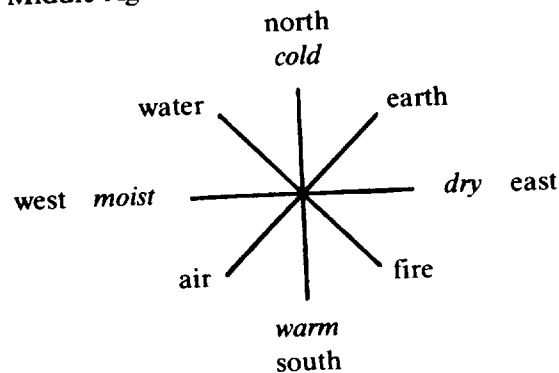
Today, this experience has disappeared. Modern man feels completely separated from the world: he no longer feels the qualities of the spot on earth where he lives. He still notices that it gets colder when he travels north and warmer when he travels south. In ancient times one experienced something comparable in his body when traveling westwards or eastwards. Traveling towards the east, one felt dryer; traveling towards the west one perceived an increase in moisture. Thus one had differentiated perceptions dependent on the four directions in space. These are not the elements, but they are connected with them in accordance with natural law. This becomes evident when also the elements are experienced. Such experiences are not perceptions of the physical senses like the experience of moisture and coldness, but are inner experiences of the soul. The people of ancient times felt that from the northwest, the region between coldness and moisture, forces approached them which they perceived inwardly as beings, as the water element beings. The capacity for such experiences began to vanish during the Greek period. Through Aristotle's teachings, Alexander still experienced the elements in this way. Rudolf Steiner described this in the same context: "Thus it was that Aristotle's pupil pointed towards northwest and said: 'Thence I perceive the effect of the spirits of water on this earth.' He pointed towards southwest and said: 'Thence I perceive the spirits of air.' He pointed towards northeast and saw how predominantly the

42. Lecture Dornach, December 27, 1923 in: Rudolf Steiner, *Rudolf Steiner Gesamtausgabe*, vol. 233: *Die Weltgeschichte in anthroposophischer Beleuchtung und als Grundlage der Erkenntnis des Menschengesistes*, 4th ed. (Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1980) p. 78.

Engl.: *World History in the Light of Anthroposophy*, trans. by George Adams, Mary Adams, and Dorothy S. Osmond, 2d ed. (London: Rudolf Steiner Press, 1977).

spirits of earth came floating thence. He pointed towards south-east, towards India, and saw the spirits of fire approaching or saw them in their element."⁴³

This experience of the elements was combined with the experience of the four directions in space and thus developed the diagram of the two crosses which stand at 45 degrees to each other. This arrangement does not arise from speculation but from experience. It reflects the facts of nature and their orderly relationship which man observes and explores in the world within his horizons. Once this order was discovered, it could also be used without reference to the four directions in space, and it proved to have encompassing fruitfulness for the cognitive life of antiquity and the Middle Ages.



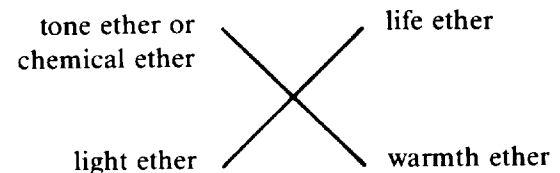
The actual experiences vanished very soon after Alexander's time, but the diagram of the two-fold cross remained and was the basis for understanding man and nature, particularly in the art of healing, during the Middle Ages and until modern times. One no longer spoke of the beings of water or the elements, but of qualities, and one called the four elements the primary qualities, and warm, cold, etc., the secondary qualities. During the Middle Ages this teaching was expanded by differentiating degrees within the secondary qualities and it was said, for example: The rose is cold in

43. Steiner, *Die Weltgeschichte in anthroposophischer Beleuchtung und als Grundlage der Erkenntnis des Menschengesistes*, p. 80.

the first degree and dry in the second.⁴⁴ According to these points of view medications were examined and applied. Both the exaggeration of this separating into degrees and the appearance of completely different, new directions of understanding led to the gradual disappearance from science of the knowledge of the four elements and qualities. The basic facts have not disappeared from nature and man; they have only to be grasped in a new way. Modern man can no longer sense them through his body or recognize them as spiritual beings. He must use perception and thinking, in which case it becomes evident that the primary qualities of the four elements are ideas and the secondary qualities are perceptions.

The elements cannot be perceived by the senses. In our world of the senses they appear by virtue of their four secondary qualities in such a way that each of the four secondary qualities is the manifestation of the collaboration of the two elements bordering it. The collaboration of the water and air elements appears in the visible, sense-perceptible world as moisture. The other correspondences can be ascertained from the diagram.

Since each of the four elements forms a pair with one of the four ethers as previously described, the question arises: Could the four ethers be arranged in a similar manner, i.e., in the form of a cross?



Like the elements, the ethers are ideas. In which phenomena does their collaboration appear perceptible to our senses? Since the Greeks knew only one undifferentiated ether, they could

44. Willem F. Daems, "Die Rose ist kalt im ersten Grade, trocken im zweiten" [The Rose is Cold in the First Degree, Dry in the Second], *Beiträge zu einer Erweiterung der Heilkunst nach geisteswissenschaftlichen Erkenntnissen* [Contributions Towards an Expansion of the Art of Healing Based on Insights Gained by Spiritual Science], vol. 6 (Stuttgart: Arbeitsgemeinschaft anthroposophischer Aerzte [Working Association of Anthroposophic Medical Doctors], 1972).

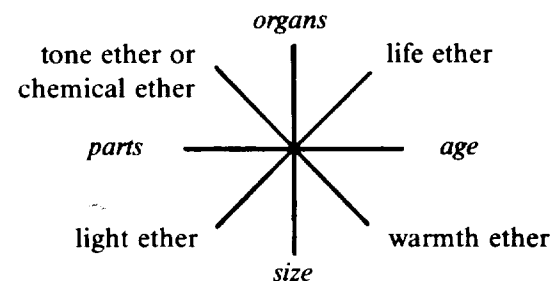
neither ask nor answer this question. We have to look for the answer by way of thought and have to find the phenomena in the realm of the organic.

Which of our sense perceptions appears from the combined activity of *warmth ether* and *light ether*? Light ether is the expanding force that creates space, warmth ether is the ripening and approaching of time (which works together with fire and the waning warmth). Theoretically, one can characterize these ethers' collaboration as space creation within a span of time. Take, for example, a kernel of summer wheat germinating in the earth: It sprouts, grows for four weeks, and then is perhaps a foot tall. In another six weeks it grows further and reaches its full height. What has become visible through the collaboration of the two ethers? The wheat's growth, the height and size of the plant.

What is it that appears through the working together of *light ether* and *tone or chemical ether*? Light ether creates space; tone ether separates and creates order, as evident in Chladny sound figures. The growing plant does not remain only a simple line, a bare stem. It sprouts leaves, twigs, flowers, fruits. Visualize a crow's foot or a tomato plant. A finely structured object in space has developed. Light ether and tone or chemical ether allow the structure of space to appear. *Segments* develop. Segments are separations and arrangements within one unit of space. In music one can also speak of arrangements in segments which have a character relating more to time; they are, however, also structures in space, when they resound.

What is it that appears through *tone ether or chemical ether* and *life ether*? Life ether is the force which creates wholes, bounds itself within a skin, enlivens, is subdivided and organized inside by tone ether. The result is *organs*, parts that are wholes, i.e., liver, lungs, kidneys, etc. Each of them is also bounded by a skin, in each of which a separate chemism, a special life takes place.

What kind of phenomenon results from the combined effects of *life ether* and *warmth ether*? It is the whole within time: the age in life. With a person of seventy, the whole has been kept within time for seventy years by warmth ether; warmth continually came into existence and vanished in him over the course of seventy years.



One can also ask: What is it that comes into existence and appears through the combined effect of the two ethers situated opposite each other? *Warmth ether* and *tone or chemical ether*, ripening chemism, for example, when the green cherry changes into the sweet, ripe fruit, or when the sex cells, already present at a baby's birth, begin their dividing during puberty and the sex hormones become active. These chemical happenings, developing through the joint activity of warmth ether and chemical ether, can be called *processes*.

Between *light ether* and *life ether* the growing, metamorphosing whole comes into existence, i.e., the changes of form which a newborn human being undergoes until it is fully grown; or the changes of form of a frog egg until the frog is fully developed. One can call this *building of form* or *forming* [*Gestaltung*].

These thoughts about the joint activity of the pairs of ether lead to the insight that in reality not only two ethers work together, but always all four and, actually, in all possible combinations. This becomes quite visible in the development of the frog egg into the fully developed frog. The building of form goes hand in hand with chemical processes, growth goes hand in hand with structuring and forming of organs and all of this occurs during the life of the organism.

Through this one finds the *foundation of life*. We characterized the effects of the ethers in the manifestations of life in plant, animal, and man. The ethers in their fourfold joint activity are the actual life forces.

This result of our examination of the ethers corresponds to the research and presentations of anthroposophical spiritual science. The fourfold joint activity of the ethers is basic to all living beings

on earth. Rudolf Steiner speaks of the etheric body⁴⁵ which consists of these four ethers and is the life principle of all living beings. However, what has been presented so far is not yet the etheric body. In the preceding were characterized only the life forces which are *generally* active in an etheric body. While the four ethers can bring into being size, members, organs, formation, processes, etc., they can only do so in general. They are working the same way in wheat and in a frog as in man. In order for a leaf, a flower, a hand, or a lung to develop, additional forces have to join the four ethers. Those are the formative forces, which are superior forces and guide the ethers in such a way that they create a leaf or flower, a plant or an animal. For a specific species to come about, a snowdrop or a rose, a trout or a swallow, the species-forming force has still to join in. Only then is the life-forming force gathered, appearing as etheric body or life body to the person perceiving the supersensory, which may simply be called the formative forces body.

The formative forces can be researched, as mentioned in the first essay. However, beforehand, still another realm of the world has to be explained, because elements and ethers alone do not yet give the complete reality available to our senses. Also belonging to reality are the forces of electricity, magnetism, and similar forces, which, according to their nature, are opposites of the ethers. They are not peripheral forces, connected with the periphery, but centric forces, exerting their influence out of the earth, as if from the earth's center, from "below," as the ethers exert their influence from "above," from the world's periphery. Rudolf Steiner called them central, or u-forces⁴⁶. Not until elements, ethers, and u-forces are together, do they give the foundation for the world and the material for the activity of the formative forces.

45. Trans. note: On many occasions Rudolf Steiner spoke of the etheric body. For one specific reference see: Rudolf Steiner, *Rudolf Steiner Gesamtausgabe*, vol. 13: *Die Geheimwissenschaft im Umriss*, 28th ed. (Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1968), pp. 418-420.

Engl.: Rudolf Steiner, *Occult Science: An Outline*, trans. by George Adams and Mary Adams (London: Rudolf Steiner Press, 1969).

46. Trans. note: Lecture Basel, October 1, 1911 in: Rudolf Steiner, *Rudolf Steiner Gesamtausgabe*, vol. 130: *Das esoterische Christentum und die geistige F hrung der Menschheit* (Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1962).

Hereby effect - we change an object by viewing it.

APPENDIX

GOETHE'S CONCEPT OF SPACE

Rudolf Steiner

(Translated by Eva Lauterbach)

A full understanding of Goethe's work in physics is only possible if one considers Goethe's concept of *space*. For this reason we shall describe it here. If we wish to understand this concept, we need to have grasped from our preceding elaborations the following points:

1) Objects singly confronting us in our experience have an inner reference to each other. In reality, they are bound together uniformly by the world. In them lives but *one* common principle.

2) When our mind approaches objects and tries to mentally embrace what is separated, the conceptual unity thus produced is not external to the objects, but taken from the inner essence of nature itself. Human understanding is not a process taking place outside objects, arising from purely subjective arbitrariness; instead, the law of nature arising in our mind, the happening in our soul, is the heartbeat of the universe itself.

For our present purpose, we shall examine the most external reference our mind establishes between the objects of experience. Let us take the simplest case in which our experiencing calls for mental activity. Two simple elements of the world of appearances are given by way of example. In order not to complicate our examination, let us take something quite simple, for example two shining points. We shall leave aside completely that possibly in each of these shining points we already have something unbelievably complicated posing a task for our mind. We shall also

pp. 102-103.

Engl.: Rudolf Steiner, *The Etherisation of the Blood*, 4th ed. (London: Rudolf Steiner Press, 1971).

leave aside the quality of the tangible elements of the world of the senses before us. We shall only consider the circumstance that we have before us two elements separated from each other, i.e., appearing separate to our senses. We are only taking as given two factors, each of which is capable of making an impression on our senses: that is all we are taking as given. We shall further take for granted that the existence of one of these factors does not exclude the existence of the other. *One* organ of perception can perceive both of them.

If we assume that the existence of one of these elements is dependent upon the existence of the other in any way whatsoever, then we have a problem different from our present one. If the existence of B is such that it excludes the existence of A, yet, according to its essence, is dependent on it, then A and B have to have a *relationship in time*. Because the dependence of B on A—keeping in mind that the existence of B excludes the existence of A—is conditioned on A preceding B. But this should be discussed separately.

For our present purpose we shall not assume such a relationship. We are taking for granted that those things we are concerned with do not exclude each other's existence, but instead are entities existing with each other. If we disregard every reference demanded by inner nature, only this remains that a reference as such exists of the special qualities, that I can transit from one to the other. I can get from one element of experience to the other. There can be no doubt for anyone what kind of relationship it may be that I create between things without considering their composition, their essence. Whoever asks what kind of transition from one thing to the other can be found, with the thing itself of no consideration, must certainly give the answer: *space*. Every other relationship has to be based on the qualitative composition of what appears separately in the world. Only space considers nothing other than that things are *separated*. When I am thinking: A is above, B is below, I don't concern myself at all with what A and B are. I connect no other thought with them than that they are separate factors of the world that I grasp with my senses.

When looking at experience our mind wants to overcome separateness, it wants to demonstrate that the force of the whole

can be seen in the individual members. Concerning spatial views, it does not wish to overcome anything other than individualization as such. Our mind wants to establish the *utmost general relationship*. That A and B individually are not a world by themselves but share togetherness, is clear through spatial observation. That is the idea of *next to each other*. If each thing were a being alone, there would exist no concept of *next to each other*. I would in no way be able to establish a reference of beings to each other.

Now we shall examine what further follows from establishing an external reference between two individual entities. I can visualize two elements only *one way* in such a reference. I visualize A *next to* B. I can now do the same with two other elements of the world of the senses, C and D. Thereby, I have established a concrete reference between A and B and another between C and D. Now I will completely set aside the elements A, B, C, and D, and only refer the two concrete references to each other. It is clear that as two special entities, I can refer these to each other as much as A and B themselves. What I am referring here are concrete references: I may call them a and b. If I now go a step further, I can refer a again to b. But now I have already lost all that is individual. When looking at a, I no longer find an individual A and B referring to one another, and the same with b. In both of them I find nothing other than that there has been a reference as such. This determination, however, is the same for a and b. What enabled me to still distinguish a and b was that they referred to A, B, C, and D. If I exclude this remnant of the individual and only refer a and b to each other, i.e., the circumstance that there has been a reference altogether (not that something specific has been referred), then I have again arrived very generally at the spatial relationship from which I started. Further I cannot go. I have reached what I have set out for earlier: *space* itself is standing before my soul.

Herein lies the secret of the three dimensions. In the first dimension I refer to each other two concrete elements appearing in the world of the senses; in the second dimension I refer these spatial references themselves to each other. I have established a reference between references. I have brushed off the concrete things, the concrete references have remained. Now I spatially refer these to

each other. That is, I disregard that they are concrete references; then, however, I have to find in the second reference exactly whatever I find in the first. I am establishing references where there is no difference. Now the possibility of relating is ended because the difference is ended.

What I previously took as the viewpoint for my observations, namely, the totally external reference, I now reach again as idea based on sense perception; from the observation of space, after executing my operation three times, I have arrived at space, i.e., my starting point.

Therefore, space can have only three dimensions. What we have done here with the idea of space is actually only a special case of the method, we employ all the time when we observingly approach things. By observing tangible objects from a general viewpoint, we gain concepts of individual things. These concepts we then examine from the same viewpoints so that we have only the concepts of the concepts before us. If we connect those, they melt into that uniformity of an idea which may be placed under no further viewpoint than its own. Let us take a specific example. I am getting to know two people: A and B. I look at them from the viewpoint of friendship. In which case I shall gain a very specific concept, a, of the two people's friendship. Now I look at two other people, C and D, from the same viewpoint. I come to another concept, b, of this friendship. I can go further and refer these two concepts of friendship to each other. What I am left with, if I disregard the concrete fact I have gained, is the *concept of friendship as such*. This, however, I can also gain in reality by viewing the persons E and F from the same viewpoint, and also G and H. In this, as in innumerable other cases, I can reach the concept of *friendship as such*. All these concepts, however, are essentially identical to each other; and if I look at them from the same viewpoint, it becomes apparent that I have found a whole. I have returned again to what I started with.

Space is thus a view of things, a way in which our mind gathers things into a unit. The three dimensions in this connection behave in the following manner. The first dimension establishes the relationship between two sensory perceptions (sensory perception here is what Kant calls sensation [Empfindung]). Thus it is a

concrete thought. The second dimension relates two concrete thoughts to each other and thereby moves into the area of *abstraction*. The third dimension, finally, only establishes the *uniformity* of the idea between the abstractions. Therefore, it is totally incorrect to consider the three dimensions of space as completely equal. Whichever is the first depends, of course, on the elements perceived. But then the other dimensions have a very specific and *different* meaning from the first. Kant assumed, quite in error, that space is a totality instead of an entity conceptually determinable within itself.

Heretofore, we have spoken of space as a relationship, a reference. But is there only this relationship of next to each other? Or is an absolute determination of location existent for each thing? This, of course, has not even been touched on in our preceding elaborations. But, let us examine if such a condition of location, a very specific "there" exists. What am I referring to in reality when speaking of such a "there"? Nothing other than an object of which the immediate neighbor is the object in question. "There" means neighboring an object referred to by me. With that, however, the absolute indication of location has been led back to a *spatial relationship*. The examination mentioned thereby becomes pointless.

Finally, let us raise the question: According to the preceding examinations, what is space? Nothing other than a necessity, inherent in the things themselves, to overcome in a most external way their being individual without considering their essence, and to unite them in an external uniformity. Space, therefore, is a way of grasping the world as uniformity. *Space is an idea*; not, as Kant thought, something one sees.

BIBLIOGRAPHY

- Aristotle. *On the Heavens*. In *Aristotle*. Vol. 1. Great Books of the Western World. Vol. 8. Chicago: Encyclopaedia Britannica, Inc., 1982. pp. 359-405.
- Daems, Willem F. "Die Rose ist kalt im ersten Grade, trocken im zweiten" [The Rose is Cold in the First Degree, Dry in the Second]. *Beitraege zu einer Erweiterung der Heilkunst nach geisteswissenschaftlichen Erkenntnissen* [Contributions Towards an Expansion of the Art of Healing Based on Insights Gained by Spiritual Science]. Vol. 6. Stuttgart: Arbeitsgemeinschaft anthroposophischer Aerzte [Working Association of Anthroposophical Medical Doctors], 1972.
- Goethe, Johann Wolfgang von. *Sprueche in Prosa* [Aphorisms in Prose]. *Goethes Saemmtliche Werke in zehn Baenden* [Goethe's Complete Works in 10 Volumes]. Vol. 1. Stuttgart: Verlag der J. G. Cotta'schen Buchandlung, 1875. pp. 740-850.
- Kolisko, L. *Sternenwirken in Erdenstoffen* [Effects of the Stars on Earthly Substances]. Stroud, Great Britain: Kolisko Archives, 1952.
- Marti, Ernst. "Vom Wesen des Potenzierens" [About the Nature of Potentization]. *Potenzierte Heilmittel* [Potentized Medicines]. Stuttgart: Verlag Freies Geistesleben, 1971.
- Steiner, Rudolf. *Rudolf Steiner Gesamtausgabe*. [Rudolf Steiner's Collected Works]. 354 vols.
- Vol. 1. *Goethes Naturwissenschaftliche Schriften*. 3d ed. Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1973.
- Engl.: *Goethe the Scientist*. Trans. by Olin D. Wannamaker. New York: Anthroposophic Press, 1950.
- . Vol. 9. *Theosophie*. 28th ed. Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1961.
- Engl.: *Theosophy*. Trans. by A. P. Shepherd. 4th ed. London: Rudolf Steiner Press, 1973.
- . Vol. 10. *Wie erlangt man Erkenntnisse der hoeheren Welten?* 22d ed. Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1975.
- Engl.: *Knowledge of the Higher Worlds and Its Attainment*. Spring Valley, N.Y.: Anthroposophic Press, 1983.
- . Vol. 11. *Aus der Akasha Chronik*. 4th ed. Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1969.
- Engl.: *Cosmic Memory: Atlantis and Lemuria*. Trans. by Karl E. Zimmer. 2d ed. 2d impression. New York: Rudolf Steiner Publications, 1971.
- . Vol. 12. *Die Stufen der hoeheren Erkenntnis*. 5th ed. Dornach, Switzerland: Verlag der Rudolf Steiner-Nachlassverwaltung, 1959.
- Engl.: *The Stages of Higher Knowledge*. Trans. by Lisa D. Monges and Floyd McKnight. 3d ed. New York: Anthroposophic Press, 1981.
- . Vol. 13. *Die Geheimwissenschaft im Umriss*. 28th ed. Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1968.
- Engl.: *Occult Science: An Outline*. Trans. by George Adams and Mary Adams. London: Rudolf Steiner Press, 1969.
- . Vol. 106. *Aegyptische Mythen und Mysterien*. 4th ed. Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1978.
- Engl.: *Egyptian Myths and Mysteries*. Trans. by Norman Macbeth. 2d ed. New York: Anthroposophic Press, 1971.
- . Vol. 110. *Geistige Hierarchien und ihre Widerspiegelung in der physischen Welt*. 5th ed. Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1972.
- Engl.: *The Spiritual Hierarchies and Their Reflection in the Physical World: Zodiac, Planets, Cosmos*. Trans. by R. M. Querido. 2d ed. New York: Anthroposophic Press, 1970.
- . Vol. 122. *Die Geheimnisse der biblischen Schoepfungsgeschichte*. 5th ed. Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1976.
- Engl.: *Genesis, Secrets of the Bible Story of Creation*. Trans. by Dorothy Lenn and Owen Barfield. 2d ed. London: Anthroposophical Publishing Co., 1959.
- . Vol. 130. *Das esoterische Christentum und die geistige Fuehrung der Menschheit*. Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1962.
- Engl.: *The Etherisation of the Blood*. 4th ed. London: Rudolf Steiner Press, 1971.
- . Vol. 132. *Die Evolution vom Gesichtspunkte des Wahrhaftigen*. 4th ed. Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1969.
- Engl.: *The Inner Realities of Evolution*. 2d ed. London: Rudolf Steiner Publishing Co., 1953.
- . Vol. 233. *Die Weltgeschichte in anthroposophischer Beleuchtung und als Grundlage der Erkenntnis des Menschengeistes*. 4th ed. Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1980.
- Engl.: *World History in the Light of Anthroposophy*. Trans. by George Adams, Mary Adams, and Dorothy S. Osmond. 2d ed. London: Rudolf Steiner Press, 1977.
- . Vol. 236. *Esoterische Betrachtungen karmischer Zusammenhaenge*. Vol. 2. 4th ed. Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1972.
- Engl.: *Karmic Relationships*. Vol. 2. Trans. by George Adams. 2d ed. London: Rudolf Steiner Press, 1974.

- . Vol. 279, *Eurythmie als sichtbare Sprache*. 3d ed. Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1968.
Engl.: *Eurythmy as Visible Speech*. Trans. by V. Compton-Burnett, J. Compton-Burnett, S. Dubrovik, and C. Dubrovik. 2d ed. London: Anthroposophical Publishing Co., 1956.
- . Vol. 312. *Geisteswissenschaft und Medizin*. 3d ed. Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1961.
Engl.: *Spiritual Science and Medicine*. 2d impression. London: Rudolf Steiner Press, 1948.
- Steiner, Rudolf and Ita Wegman. Vol. 27. *Grundlegendes fuer eine Erweiterung der Heilkunst nach geisteswissenschaftlichen Erkenntnissen*. 5th ed. Dornach, Switzerland: Rudolf Steiner-Nachlassverwaltung, 1977.
Engl.: *Fundamentals of Therapy*. Trans. by George Adams. 3d ed. London: Rudolf Steiner Press, 1967.
- Wachsmuth, Guenther. *Die aetherischen Bildekraefte in Kosmos, Erde und Mensch: Ein Weg zur Erforschung des Lebendigen*. Vol. 1. 2d ed. Dornach, Switzerland: Philosophisch-anthroposophischer Verlag am Goetheanum, 1926.
Engl.: *The Etheric Formative Forces in Cosmos, Earth and Man*. Trans. by Olin D. Wannamaker. New York: Anthroposophic Press: London: Anthroposophical Publishing Co., 1932.
- . *Die aetherische Welt in Wissenschaft, Kunst und Religion: Vom Weg des Menschen zur Beherrschung der Bildekraefte* [The Etheric World in Science, Art, and Religion: Man's Attempt to Master the Formative Forces]. Vol. 2. Dornach, Switzerland: Philosophisch-anthroposophischer Verlag am Goetheanum, 1927.
- . "Zur Richtigstellung" [A Rectification]. *Beitraege zu einer Erweiterung der Heilkunst nach geisteswissenschaftlichen Erkenntnissen* [Contributions to an Enhancement of the Art of Healing Based on Insights Gained by Spiritual Science]. No. 2. Stuttgart: March/April, 1960.

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 Revelation
 Manifestation
 Creation
 Destruction
 Transformation
 Evolution
 Revolution
 Innovation
 Progress
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 Growth
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 Contraction
 Oscillation
 Vibration
 Resonance
 Frequency
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 Pattern
 Structure
 Form
 Shape
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 Quantity
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 Nature
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 Active
 Passive
 Primary
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 Tertiary
 Quaternary
 Quinary
 Senary
 Senary
 Octonary
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 Sexdecenary
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 Ducenta
 Trecenta
 Quingenta
 Sexcenta
 Septingenta
 Octingenta
 Nongenta
 Milia
 Decem
 Vigesima
 Trigesima
 Quadraginta
 Quingenta
 Sexcenta
 Septingenta
 Octingenta
 Nongenta
 Milia

INCORPORATION - Being

ETHERIC FORMATION - manifestation

